

Sample Collection/Creation Procedures

November 08, 2004 09:35:48

0800257

Clear Creek Superfund

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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0800597

Ogden Railyard

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
ERT2012	SAMPLE COLLECTION			
ERT2013	SAMPLE COLLECTION			
ERT2016	SAMPLE COLLECTION			
UNKNOWN	unknown procedures			

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0800650

International Smelter

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
AECID5-8	res dust sample 5-8			
AECIGW4-1	groundwater sample 4-1			
AECILY1-4	lysimeter 1-4			
AECILY2-7	lysimeter 2-7			
AECIQC1-4	field qual control 1-4			
AECIRES5-5	residential soil 5-5			
AECISB5-4	soil boring 5-4			
AECISED3-1	sediment 3-1			
AECISS5-2	soil 5-2			
AECISW3-1	surface waters 3-1			
UNKNOWN	unknown			

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0800852 **Mystery Bridge Road - US Highway 20**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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0801194 **Summitville Superfund site**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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0801417

Red Mountain Pass Zinc

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	un known			

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0801478 **California Gulch**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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0801505 **French Gulch Superfund site**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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081575 **Slide Mine Boulder County CO**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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081700

Gilt Edge Mine

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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0834QB00

Cheyenne River

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

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11113300 New Hampshire Dept. of Environmental Services

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BEACHPROG	Beach Program Sampling Procedures	Water Sampler	Wade into the water to knee depth. Wait for the water to be clear of debris that may have been disrupted when walking into the water. Or sample away from the disturbed area. Unscrew the bottle cap making sure not to touch the inside of the cap or neck with fingers or any other object. Hold the cap in one hand, and with the other hand turn the bottle upside down so the opening is facing the water surface. Make sure you never touch the opening of the bottle neck. With a downward thrust moving away from your body, dip the bottle at least a foot below the surface. Fill the bottle with one sweeping motion, and discard a few milliliters to allow some head (air) space. Replace the cap carefully over the bottle and tighten.	
RIVERPROG	Ambient and VRAP sampling procedures	Water Sampler	If a bridge station, bucket is lowered into main channel, rinsed twice w/river water, and 3rd bucket is used to fill sample bottles. For other stations, sample bottle is held in main channel and filled on the samplers' upstream side.	

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1111REG1

USEPA, Region I

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB001	Charles River Water Sample Collection			Ray Thompson, 1998, Charles River Baseline Water Quality Study Sampling Procedures, U.S. EPA Office of Environmental Measurement and Evaluation, 1998 QAPP, page 9
MEAS001	Charles River Baseline Study Water Quality Field Measurement			Ray Thompson, 1998, Charles River Baseline Water Quality Study Field Measurement Procedures, U.S. EPA Office of Environmental Measurement and Evaluation, 1998 QAPP, page 22

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1117MBR

US EPA Region 7

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FISH-BMES	Floatable Stream/Lake Game & Rough Fish Survey	Electroshock	Boat-mounted electroshock, DC or AC current.	Kansas Biological Survey, 1993, Watershed Monitoring Manual, Ecotoxicology Program. U of Kansas, Lawrence, KS., 47pp.
FISH-BPES	Wadable Stream Game & Rough Fish Survey	Electroshock	Uses backpack electroshock unit	Kansas Biological Survey, 1993, Watershed Monitoring Manual, Ecotoxicology Program. U of Kansas, Lawrence, KS., 47pp.
SOP2333.2	Flow Measurement	Miscellaneous/Other		USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.1	Routine Sample Collection (water)			USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.11	Biological Sample Collection			USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.12	Collection & Id of Surface Floating Pupal Exuviae Chironomi		"Collection & Identification of Surface Floating Pupal Exuviae of Chironomidae for Use in Studies of Surface Water Quality"	USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.13	Sampling Fish for Tissue Residue Determinations	Electroshock	This SOP establishes uniform procedures for the collection, identification and preservation of fish whose tissues are to be chemically analyzed.	USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.14	Tubing Blanks	Water Sampler		USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.16	Spiking Samples of Whole Fish in the Field for Total Bias &	Miscellaneous/Other	"Spiking Samples of Whole Fish in the Field in Preparation for Estimating the Total Measurement Bias and Total Measurement Precision of a New Analyte"	USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.18	Technical Considerations in Design of Fish Collection for WQ		"Technical Considerations in the Design of Fish Collection Activities for Water Quality Assessments"	USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.19	Technical Considerations in Selection of Ref and Control Sit		"Technical Considerations in the Selection of Reference and Control Sites for Water Quality	USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND

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1117MBR

US EPA Region 7

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			Evaluation"	QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP2334.2	Priority Pollutant Sample Collection	Water Sampler		USEPA, REGION 7, ENVIRONMENTAL SERVICES DIVISION, 2000, OPERATIONS AND QUALITY ASSURANCE MANUAL, EPA, R7, .
SOP4230.8	Sediment Sample Collection			

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1119USBR

Bureau of Reclamation

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	GRAB			

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11DELMOD

Delaware River Basin Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BFN	Delaware River Macroinvertebrates	Net/Non-Tow	Big-River Frame Net - 2x3ft 500u rectangular frame net with bottom frame 2x2ft (mfd by Wildco)	
DFRAME	Macroinvertebrate Sampler - D- Frame Kick net	Net/Non-Tow	D-Frame Kick Net, standard RBP size, 595u (mfd by Wildco)	
KICKRECT	Macroinvertebrate Sampler - Rectangular Frame Kicknet	Net/Non-Tow	Rectangular Frame Kicknet, standard size, 595u (mfd by Wildco)	
WATER	Water Samples - Ambient River or Tributary Samples	Water Sampler	Bottle attached to line lowered from bridge or collected by wading	

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1VTDECWQ

Vermont Dept of Environmental Conservation

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
COLL-01	Water Bottle Sampling	Water Sampler	Grab sample from surface at about 0.2 meter depth (Method 2.2.1).	VTDEC-02 - Vermont Department of Environmental Conservation, 1989, Field Methods Manual, Vermont Department of Environmental Conservation, entire manual
COLL-02	Water Kemmerer Sampling	Water Sampler	Kemmerer sample at depth (Method 2.2.3).	VTDEC-02 - Vermont Department of Environmental Conservation, 1989, Field Methods Manual, Vermont Department of Environmental Conservation, entire manual
COLL-03	Water Hose Sampling	Water Sampler	Composite sample using hose at depth (Method 2.2.2).	VTDEC-02 - Vermont Department of Environmental Conservation, 1989, Field Methods Manual, Vermont Department of Environmental Conservation, entire manual
COLL-04	Water Vertical Composite - Champlain	Water Sampler	A single, vertically integrated sample was collected using a compositing procedure that was designed so that the sample concentration results would correspond approximately to the vertical "mixed-reactor" assumption to be used in the lake model. The sample depths for the vertical composite samples were chosen to represent the midpoints of lake strata having approximately equal volumes. The composite samples were intended to represent the concentration that would exist if the water column were completely mixed vertically.	VTDEC-04 - Vermont Dept. of Environmental Conservation, 1997, A Phosphorus Budget, Model, and Load Reduction Strategy for Lake Champlain, Vermont Dept. of Environmental Conservation, p 8
COLL-05	Water Vertical Composite - Streams	Water Sampler	In smaller, well-mixed streams where lateral concentration gradients were unlikely to exist (based on visual judgement), only one vertically integrated sample was collected on each sampling date at the centroid of flow (point-of greatest depth-velocity product). At sites where the stream width was greater, up to five vertical samples were obtained at equal width increments across the stream and proportionately composited into a single sample.	VTDEC-04 - Vermont Dept. of Environmental Conservation, 1997, A Phosphorus Budget, Model, and Load Reduction Strategy for Lake Champlain, Vermont Dept. of Environmental Conservation, p 8
COLL-06	Water Vertical Composite -	Water Sampler	A composite sample collected that represents	VTDEC-06 - Vermont Department of

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1VTDECWQ

Vermont Dept of Environmental Conservation

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
	Unstratified		three discrete depths in the water column: 2 meters below the lake surface, mid-depth, and approximately 2 meters above the lake bottom.	Environmental Conservation; New York State Department of Environmental Conservation, 2003, Lake Champlain LTM Workplan/QAPP, Vermont Department of Environmental Conservation, 28
COLL-07	Water Vertical Composite - Epilimnion	Water Sampler	A composite sample collected that represents three discrete depths in the water column in the epilimnion: 2 meters below the lake surface, mid-depth in the epilimnion, and approximately 2 meters above the upper knee of the thermocline.	VTDEC-06 - Vermont Department of Environmental Conservation; New York State Department of Environmental Conservation, 2003, Lake Champlain LTM Workplan/QAPP, Vermont Department of Environmental Conservation, 28
COLL-08	Water Vertical Composite - Hypolimnion	Water Sampler	A composite sample collected that represents two discrete depths in the water column in the hypolimnion: mid-depth in the hypolimnion, and approximately 2 meters above the lake bottom.	VTDEC-06 - Vermont Department of Environmental Conservation; New York State Department of Environmental Conservation, 2003, Lake Champlain LTM Workplan/QAPP, Vermont Department of Environmental Conservation, 28
COLL-09	Water Plastic Kemmerer Sampling	Water Sampler	Plastic kemmerer sample at depth (Method 2.2.3).	VTDEC-02 - Vermont Department of Environmental Conservation, 1989, Field Methods Manual, Vermont Department of Environmental Conservation, entire manual

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211WVOWR Division of Water and Waste Management

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB01	Grab Sampling		Use Bucket, otherwise dip containers into waters	
SAMPLING02	Bottom Sampling	Water Sampler		

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21AQ

Commonwealth Northern Mariana Islands

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
CNMI-001	CNMI sample collection method			

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21ARIZ

Arizona Department of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
STANDARD	Arizona Standard Collection Procedures		See the Arizona Department of Environmental Quality Quality Assurance Program Plan.	

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21ARIZGW

Arizona Department of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
STANDARD	Arizona Standard Collection Procedures		See the Arizona Department of Environmental Quality Quality Assurance Program Plan.	

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21AS

American Samoa Environmental Protection Agency

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SAMOA-01	Samoa Enterococcus Sample Collection			

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21CAOCSD

Orange County Sanitation District California

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
OCFP-001	Water Quality and CTD profiles	Water Sampler	CTD (conductivity-temperature-depth) measured with array of sensors attached to SeaBird unit.	
OCFP-002	Benthic Infauna	Benthic Grab	Benthic sediment and infauna samples collected with paired Van-Veen grab sampler. Sediments are washed into plastic tray using hose spray. Washings drain into 1.0 mm screen.	
OCFP-003	Trawls	Net/Horizontal Tow	Marinovitch otter trawl used to take duplicate trawls over 0.45 km transect at speed between 2.0 and 2.5 knots. Specimens identified and measured, target species used for tissue analysis.	
OCFP-004	Sediment grainsize	Benthic Grab		
OCFP-005	Bioaccumulation	Net/Horizontal Tow		
OCFP-006	Fish pathology	Net/Horizontal Tow		
OCFP-007	Sediment chemistry	Benthic Grab		

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21COL001 **Colorado Dept. of Public Health & Environment**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
HISTORIC	Historic procedure used for legacy data	Miscellaneous/Other		
STREAM_1	WQCD Stream Sampling			
UNKNOWN	UNKNOWN			

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21DCBAWQ District of Columbia Dept of Health, Water Quality Division

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Water Grab Sampling	Water Sampler		
SP-002	Plankton collection, open water	Net/Vertical Tow	Conical tow net, micrograms	
SP-003	Micro Invertebrate sampling	Net/Non-Tow	This procedure for the deployment and handling of 1-meter kick net is used for small stream riffle collection of micro invertibrate.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
SP-004	Netting fish for Tissue samples	Net/Non-Tow		
SP-005	Sediment Sampling	Benthic Grab		

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21FLA

FL Dept. of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
WQ01	Routine Water Quality Samples	Water Sampler	All samples taken at mid depth unless other wise noted.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
WQ02	Water nutrient samples	Water Sampler	All samples taken at mid depth unless otherwise noted.	
WQ03	Water algal samples	Water Sampler	Includes chlorophyll/phaeophytin and phytoplankton samples. These are collected at mid secchi depth.	
WQ04	Water Quality Metal Sampling	Water Sampler		
WQ05	Bacteria Sampling	Water Sampler	Whirl pack bags filled directly. Placed in wet ice immediately after collection. Delivered to lab within 6 hours of collection.	

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21FLBROW

Broward Co Dept of Natural Resource Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FP-001	Grab sample	Water Sampler	Kemmerer sample bottle is used to obtain a water sample which is then transferred to individual sample bottles.	
FP-002	BIOPIGMENT FILTRATION		MAGNESIUM CARBONATE IS ADDED TO 100 ML OF WHOLE WATER SAMPLE WHICH IS FILTERED THROUGH A 0.45 MICRON MEMBRANE FILTER AND PLACED INTO A 20 ML GLASS VIAL COVERED IN FOIL. TWEEZERS ARE USED TO PREVENT CONTACT WITH THE FILTER.	
FP-003	Equipment blank	Water Sampler	Laboratory water is poured into the Kemmerer sample then distributed to the various sample bottles.	

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21FLCBA

Choctawhatchee Basin Alliance

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
ANALYSIS	TN, TP & CHLA		WATER WHICH IS FROZEN OR FILTERED SENT TO LAKEWATCH LAB FOR ANALYSIS.	
REALTIME	HYDROLAB AND SECCHI DISK READINGS		HYDROLAB READINGS OBTAINED FOR SURFACE & BOTTOM SAMPLES. SURFACE SAMPLES ARE TAKEN 1.5 FT FROM THE SURFACE OF THE WATER. BOTTOM SAMPLES ARE TAKEN 1-1.5 FT FROM THE SURFACE OF THE SEDIMENT. SECCHI DISK - MEASURED BY FT. WHERE VANISHES IN THE WATER.	

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21FLCEN

Florida Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
COMPLAINT	Special investigations in response to complaints			
GRAB-1	Standard Operation Procedure			
LAKES	Reference lakes sampling protocols	Water Sampler	Samples are taken 0.3 meters subsurface.	
SEDIMENT	Sediment Collection	Benthic Grab		
STREAMS	Stream Condition Index and Fixed Trend Monitoring Protocols	Water Sampler	Samples are taken at mid-depth with a van Dorn water sampler, and transported on ice in HDPE bottles. Water samples for coliform analysis are obtained at sub-surface levels.	
TMDL	Total Maximum Daily Load			

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21FLCHAR FDEP Charlotte Harbor Aquatic/Buffer Preserves

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Water Quality Samples			

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21FLCOLL

Collier County Pollution Control (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FIELD	Collier County Field Measurements			
GRAB	Collier County Water Sampling Collection Procedure			

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21FLCPSJ **City of Port St. Joe Wastewater Treatment Plant (Florida)**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SCP-001	Water Grab Sampling			

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21FLDADE

Dade Environmental Resource Management (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BB-001	FB		Field Blank	
BB-002	G			
BB-003	FP			
BB-004	Blk			
BB-005	GB			
BB-006	GP			
SOP	DERM SOP			

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21FLDOH

Division of Environmental Health, Bureau of Water Programs

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB1	Sample Collection Procedure		Based on EPA SOPs	USEPA, 1978, Microbiological Methods for Monitoring the Environment: Water and Wastes., USEPA, EPA 600/8-78-017

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21FLEECO

Lee County (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
LCEL	Lee County Environmental Labs SOP		Lee County Environmental Laboratories SOP	Lee County Environmental Laboratory, 2002, Standard Operating Procedures, Lee County, unknown

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21FLFMRI

Florida Fish & Wildlife C C / Marine Research Institute

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
PROC 1	Hydrolab Water Measurements		Hydrolab measurements of water	U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, Office of Research and Development, National Health and Environmental Effects Research Laboratory. Gulf Ecology Division, EPA 620/R-01/003
PROC 7.4	Sediment Toxicity Sampling		Samples sent to DEP and EPA for lab analysis. Only raw results received from these organizations.	Welch, P.S., 1983, Methods for Chemical Analysis of Water and Wastes., Blankston Co., EPA 600/4-79-020
SCP-ALL	Field Sample Collection Procedures			U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, Office of Research and Development, National Health and Environmental Effects Research Laboratory. Gulf Ecology Division, EPA 620/R-01/003

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21FLFTM Florida Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	watersample collection	Water Sampler		
HYDRO	hydrolab#??	Miscellaneous/Other		

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21FLGCWW

Gilcrist County Well Watch

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
M001	Bacteria - coliform/strep	Water Sampler		
N001	Nutrients - sulfuric acid	Water Sampler	Nutrient samples acidified to pH 2 with sulfuric acid	

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21FLGFWF

Florida Fish and Wildlife Conservation Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Routine water chemistry grab sampling	Water Sampler	Collect water sample from side of boat or off bridge in triple-rinsed sample bottle from just below surface of water (approximately 10 cm). Specific depth samples collected with a plastic Van Dorn water sampler then placed in a triple-rinsed sample bottle.	
SP-002	Mercury lakes water chemistry sampling	Water Sampler		

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21FLGPC

Gulf Power Company (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Surface Water Grab Sample			

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21FLGW

FL Dept. of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
900456	SOP		Sample procedures are given in QA Plan.	Laura Morse, 2000, Florida Ambient Monitoring Network Quality Assurance Plan, FDEP, vol 1
SPRING-1	Spring Sampling SOP #1			Scott and others, 2002, Florida Geological Survey Open File Report No. 85, Florida Geological Survey, vol 1

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21FLHILL

Hillsborough County Environmental

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
WS-1	Grab			

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21FLIMCA

IMC Agrico (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample			

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21FLJXWQ

City of Jacksonville

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SCP-001	Discrete grab with bottle			
SCP-002	Discrete grab with VanDorn			
SCP-003	Integrator tube 2.5 meters			

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21FLKWAT

Florida LAKEWATCH

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample			

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21FLLCHD **Lee County Hyacinth Control District (Florida)**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample			

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21FLLCPC

Lake County Water Resource Management

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FP001	SURFACE WATER GRAB SAMPLE		DEP-SOP-001/01, FS2100	FDEP, 2001, DEP STANDARD OPERATING PROCEDURES FOR FIELD ACTIVITIES, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, ALL PAGES
FP002	GROUND WATER GRAB SAMPLE		DEP-SOP-001/01 FS2200	FDEP, 2001, DEP STANDARD OPERATING PROCEDURES FOR FIELD ACTIVITIES, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, ALL PAGES
FP003	WASTE WATER GRAB SAMPLE		DEP-SOP-001/01, FS2400	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
FP004	DRINKING WATER GRAB SAMPLE		DEP-SOP-001/01, FS2300	FDEP, 2001, DEP STANDARD OPERATING PROCEDURES FOR FIELD ACTIVITIES, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, ALL PAGES
FP005	SJRWMD SAMPLE PROCEDURES FOR VOLUNTEERS			ROBERT FREASE, Ph.D, 1998, WATER QUALITY MONITORING MANUAL FOR VOLUNTEERS IN THE ST. JOHNS RIVER WATER MANAGMENT DISTRICT, ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, ALL PAGES

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21FLLOX

Loxahatchee River District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB-01	Water Sampling, grab			
GRAB-02	Water Sampling from Bridge, grab	Water Sampler		

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21FLLOXB

Loxahatchee River District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
CORE	Benthic Corer	Benthic Corer		
H-D	Hester-Dendy	Trap/Substrate		

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21FLMANA

Manatee County Environmental Management Dept (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FPRMP	RAMP Sample Collection Procedure	Water Sampler	EMD RAMP program sample collection procedure.	
FPSWP	SWAMP Sample Collection Procedure	Water Sampler	EMD SWAMP program sample collection procedure.	

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21FLMCGL

McGlynn Laboratories, Inc

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB-1	Lake Ecology		Water surface sample and bottom. Surface sample is a grab. Bottom sample is a niskin sampler. Water must be over 1.5 meters deep to have a surface in the bottom otherwise a mid-water is taken.	STAFF, 1992, FDEP Field Sampling SOP, FDEP, v1

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21FLNWFD Northwest Florida Water District				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
COLLECT-S	Ponar dredge sediment sample collection	Benthic Dredge	Stainless steel petite ponar dredge	
COLLECT1	Surface Water Sample			DEP, 2001, Surface water sample collection, DEP, 1

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21FLORAN

Orange County Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	to be updated			

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21FLORL

Orlando Streets Drainage Stormwater Utility Bureau(Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FDEPSOP	FDEP SOP			

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21FLPBCH

Palm Beach County Environmental Resources Managemnt(Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample	Water Sampler	Grab sample is collected with a Wildco (Wildlife Supply Company) Kemmerer, performed according to the DEP Standard Operating Procedures Manual (previously CompQAP).	

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21FLPCSW **PROJECT COAST - Southwest Florida Water Management District**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	GRAB SAMPLE			

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21FLPDEM

Pinellas County Dept. of Environmental Management

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SOP	SOP			
SP-001	water grab sampling	Water Sampler	see below, use of any configurations of water samplers - alpha horizontal bottle, buckets, or container immersion as cited in section 6.0	Pinellas County Department of Environmental Management, 1998, 1998 Comprehensive Quality Assurance Plan, Pinellas County Department of Environmental Management, 1
SP-002	sediment sampling	Benthic Grab		
SP-003	seagrass sampling	Miscellaneous/Other		
SP-004	fish sampling	Net/Non-Tow		
SP-005	wildlife sampling	Trap/Substrate		

Sample Collection/Creation Procedures

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21FLPNS

Florida Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	NWD Water Quality Parameters			Bureau of Laboratories Environmental Assessment Section, 2002, DEP Standard Operating Procedures for Field Activities, FDEP, VOL 1 and FS2100
TMDL	SOP NWD Grab Sample	Miscellaneous/Other		

Sample Collection/Creation Procedures

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21FLPOLK

Polk County Water Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-01	Water Grab Sampling			DEP Methods, 1992, DEP Standard Methods, DEP, ALL
SP-02	Sample Collection Procedure			DEP Methods, 1992, DEP Standard Methods, DEP, ALL
SP-03	Secchi			DEP Methods, 1992, DEP Standard Methods, DEP, ALL

Sample Collection/Creation Procedures

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21FLRCID

Reedy Creek Improvement District - Env Services (FLORIDA)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SW1-WS	Surface Water Collection (Water Sampler)	Water Sampler		
SW2-BC	Surface Water Collection (Benthic Corer)	Benthic Corer		
SW3-TS	Surface Water Collection (Trap/Substrate)	Trap/Substrate		
SW4-NVT	Surface Water Collection (Net/Vertical Tow)	Net/Vertical Tow		
SW5-MISC	Surface Water Collection (Miscellaneous/Other)	Miscellaneous/Other		

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21FLSARA

Sarasota County Environmental Services

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SOP-1	Standard method			

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21FLSCCF Sanibel Captiva Conservation Foundation (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	grab sample			

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21FLSEM

Seminole County (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SOP-1	Grab Sample			

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21FLSFWM

South Florida Water Management District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
WS1	WATER SAMPLING			USEPA, 1999, EPA Methods and Guidance for the Analysis of Water, Version 2.0., USEPA, EPA 821/C-99-008

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21FLSJWM St. Johns Water Management District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
1	SDB Legacy Data		Procedure created to facilitate entering legacy SDB data SDB. Contact the STORET Contact Person of the Organization for details.	

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21FLSUW

Suwannee River Water Management District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample			

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21FLSWFD Southwest Florida Water Management District				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
870100-G	SWFWMD Quality Assurance Plan			SWFWMD Laboratory (CompQAPP). Water Quality Monitoring Program (Section SOP), 2002, Southwest Florida Water Management District SOP's for Water Quality Monitoring, Southwest Florida Water Management District, 1
GRAB	To be updated			
WQ-1	SWFWMD SOP's for the Collection of Water Quality Samples		The agencies standard collection procedures can be found in either the SWFWMD Laboratory CompQAPP, or the WQMP sections' SOP manual.	SWFWMD Laboratory (CompQAPP). Water Quality Monitoring Program (Section SOP), 2002, Southwest Florida Water Management District SOP's for Water Quality Monitoring, Southwest Florida Water Management District, 1

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21FLTPA **Florida Department of Environmental Protection**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SOP-1	Standard Grab Sampler			

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21FLVEMD

Volusa County Environmental Health Lab

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SOP-1	Water Sampler Standard Operation Procedure			
SP-001	Water Grab Sampling		Horizontal Van Dorn used to collect mid-depth sample for physical, filtered nutrient, and unfiltered nutrient fractions, and mid-secchi sample for chlorophyll fraction.	Compiled by Melissa Bouchelle, 1993, Indian River Lagoon Water Quality Monitoring Network QA / QC Manual, SJRWMD Indian River Lagoon National Estuary Program, Section 7.0, Page 1

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21FLWPB

Florida Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Direct Field Measurements using Intrumentation	Miscellaneous/Other		
SP-002	SEDIMENT SAMPLING	Benthic Dredge		
SP-003	Water quality grab sampling			
SP-004	sampling in field	Miscellaneous/Other		
SP-011	AMBIENT AIR SAMPLING			

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21FLWQA

Florida Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample		Involves the attainment of a water sample by filling a container in the stream, lake, river or estuary itself.	

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21GAEPD

Georgia Environmental Protection Division

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
EPD SC001	EPD /WPB Ambient Stream Sampling Procedure	Water Sampler	Standard EPD/WPB Ambient Stream Water Collection Method. Three samples are collected at equal horizontal intervals and composited. No depth integration. Various sample collection devises ranging from Stainless pail to dedicated water samplers.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
EPD SC002	EPD/WPB Lake Water sampling procedure	Water Sampler	Standard EPD/WPB Method for collecting water samples from Reservoirs.	
USGS-PRO-1	Sample Collection Procedure for DNR GA	Water Sampler	USGS Water Sample Collection Procedure. Horizontal and depth integrated stream sample taken from either a bridge or culvert or by wading stream. Ten depth integrated samples taken at equal intervals across stream width with isokenetic sampler device.	Wilde, Francesca D.: Radtke, Dean B.; Gibs, Jacob; Iwatsubo, Rick T., 1998, Handbook for Water Resources Investigations, National Field Manual for the Collection of Water-Quality Data, Book 9, USGS, Chapter A-4

Sample Collection/Creation Procedures

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21GUAM

Guam Environmental Protection Agency

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GUAM-01	Guam EPA Legacy Sampling Procedures			

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21HI Hawaii Dept. of Health

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB01	Ambient Bacti Sampling	Water Sampler	Direct collection of a water sample using the sample bottle/bag. Or use of a container to collect a water sample.	
GRAB02	Ambient monitoring using an instrument	Water Sampler	Measurement of water quality parameters using an electronic instrument such as the Hydrolab/datasonde, YSI DO meter or a pH meter.	
GRAB03	Ambient physical/chemical parameter monitoring	Water Sampler	Collection of water samples for laboratory analysis. Does not include in situ measurements using an instrument.	
HISTORIC-1	Historic Hawaii Sample Collection methods for legacy STORET			

Sample Collection/Creation Procedures

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21IOWA

Iowa Dept. of Natural Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BEA001	IDNR Parks Beach Sampling - Grab Sample	Water Sampler		
BEA002	IDNR Parks Beach Sampling - Composite Sample	Water Sampler	Sample is a composite of water collected at 9 sites (3 transects along the beach, collected samples in 3 different depths of water). DO, water temp., turbidity and pH are also collected in the field. Rainfall provided by parks staff.	
FM001	Standard IDNR-GSB Sampling procedure for Floyd-Mitchell	Water Sampler	For well nests, the sample is collected by either airlifting or bailing the well. For private wells, the sample is collected by turning on a hydrant and letting water flow for a couple of minutes. Tiles and streams collected directly	
SNY001	Standard IDNR-GSB Sampling Procedure for Sny Magill	Water Sampler	Samples collected in runs in the stream in the main flow while facing upstream. Water temperature, dissolved oxygen, turbidity, and conductivity measured at the same time.	
UHL001	Standard UHL Sampling Procedure - Grab Samples	Water Sampler	Grab samples are collected by dipping a HPDE bottle from bridge. When there is ice cover, a hole in the ice is chopped and the HPDE bottle is dipped for sample collection at the ice surface. Dissolved Oxygen collected in stainless steel container.	
UHL002	UHL-Composite Sampling Procedure for TMDL	Water Sampler	Samples collected in an automated sampler, which typically collects a sample every 20 minutes and run for 24 hours total. The samples are brought back to the UHL, where the samples are composited based on flow (pre-peak vs. post peak periods).	

Sample Collection/Creation Procedures

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21KY

Kentucky Division of Water

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
AWM-SOP	KENTUCKY AMBIENT/WATERSHED WATER QUALITY MONITORING SOP		This contains agency's standard water quality collection procedures for rivers and lakes. Project specific citations can be entered in the CITATIONS data entry screen, and can be selected below.	KENTUCKY DIVISION OF WATER, WATER QUALITY BRANCH, 2002, KENTUCKY AMBIENT/WATERSHED WATER QUALITY MONITORING STANDARD OPERATING PRODEDURE MANUAL, KENTUCKY DIVISION OF WATER, 1

Sample Collection/Creation Procedures

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21MICH

Michigan Department of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
AUTO	Automatic Water Sampler	Water Sampler		
CORE	Sediment Core Samples	Benthic Corer		
FIELD	Field Samples, not analyzed in the lab	Water Sampler		
GRAB	Grab Sample	Water Sampler		
SCOOP	Sediment Sampler	Miscellaneous/Other		
TOW	Algal Tow	Net/Vertical Tow		

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21NC01WQ

NCDENR-DWQ

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample		Grab water sample taken just below the surface.	NC DWQ Water Quality Section, 1996, Standard Operating Procedures Manual Physical and Chemical Monitoring, NC DWQ Water Quality Section, All
ISCO	ISCO sample	Water Sampler	Grab sample taken by automated ISCO sampler.	NC DWQ Water Quality Section, 1996, Standard Operating Procedures Manual Physical and Chemical Monitoring, NC DWQ Water Quality Section, All
LEGACY	LEGACY			
PHOTIC	Photic zone composite sample	Water Sampler	Composite sample of the entire photic zone (defined as twice the secchi depth); taken using a LabLine PolyPro sampler.	NC DWQ Water Quality Section, 1996, Standard Operating Procedures Manual Physical and Chemical Monitoring, NC DWQ Water Quality Section, All

Sample Collection/Creation Procedures

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21NC02WQ		NCDENR-DWQ (2nd)		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample		Grab water sample taken just below the surface.	WQS SOP - NC DWQ Water Quality Section, 1996, Standard Operating Procedures Manual Physical and Chemical Monitoring, NC DWQ Water Quality Section, All
ISCO	ISCO Sample	Water Sampler	Grab sample taken by automated ISCO sampler.	WQS SOP - NC DWQ Water Quality Section, 1996, Standard Operating Procedures Manual Physical and Chemical Monitoring, NC DWQ Water Quality Section, All
PHOTIC	Photic Zone Composite Sample	Water Sampler	Composite sample of the entire photic zone(defined as twice the secchi depth); taken using a LabLine PolyPro sampler.	WQS SOP - NC DWQ Water Quality Section, 1996, Standard Operating Procedures Manual Physical and Chemical Monitoring, NC DWQ Water Quality Section, All

Sample Collection/Creation Procedures

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21NDHDWQ

North Dakota Dept. of Health

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BEN_02	Benthic Dip Net	Net/Non-Tow		
BEN_03	Benthic Surber	Net/Non-Tow		
FISH_01	Fish ElectroShock	Electroshock	Stream Side Electroshock Equipment	
SP-007	Fish Gill Nets	Net/Non-Tow		
STANDARD	Standard Sample Collection Procedure for North Dakota			Michael J. Ell, 1993, Standard Operating Procedures for Field Samplers, N.D. State Department of Health and Consolidated Laboratories, 1

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21NEB001

Nebraska Dept. of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
205(J) F1	Fish Collection Procedures for Stream Collections	Electroshock	Collection Methods for old 205(J) stream studies ESBM-Boat-Mounted Shock, ESBP-Backpack Shock, ESOTH-Electroshock, ESSS-Stream-Side Shock	USEPA, 1999, Rapid Bioassessment Protocols for Wadeable Streams and Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, 2nd ed, USEPA, EPA 841/B-99-002
205(J) F2	Net/Non-tow Collection Gear	Net/Non-Tow	Collection Methods For Fish NNPG-Set (Passive) Gill Net NNSN-Seine Net NNBK-Block Net NNFY-Fyke Net NNDP-Dip Net NNTRP-Trap Net	
205(J) F3	Miscellaneous Other Fish Sampling Methods	Miscellaneous/Other	MSCC-Concussion Sampling	
205(J) M1	Macroinvertebrate Collection procedures for Streams	Benthic Corer	BCOTH- Benthic Corer	USEPA, 1990, Macroinvertebrate field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters., USEPA, EPA 600/4-90-030
205(J) M2	Ponar Grab	Benthic Grab	BGPON-Ponar Grab	
205(J) M3	Net/Non-tow Macroinvertebrate Nets	Net/Non-Tow	NNDP-Dip net NNOTH-Other nets and Sieves	
205(J) M4	Trap Substrate Macroinvertebrate Collections	Trap/Substrate	TRHD-Hester-Dendy TRNS-Natural Substrate TRSU-Surber Sampler	
205(J) M5	Miscellaneous Other Macroinvertebrate Collections	Miscellaneous/Other	MSOTH-Miscellaneous other- multiple gear macroinvertebrate sampling	
CUBIE1	Cubie Transport Container	Miscellaneous/Other	COLLECT AND PRESERVE SAMPLES IN ACCORDANCE WITH SOP	John Bender, 1998, DEQ SOP, NDEQ, 1
FIELDPARAM	FIELD COLLECTION PROCEDURES	Miscellaneous/Other	PARAMETERS TO BE COLLECTED IN THE FIELD: DO, pH, CONDUCTIVITY, TEMPERATURE (C)	John Bender, 1998, DEQ SOP, NDEQ, 1
GRAB	GRAB	Miscellaneous/Other	GRAB SAMPLE FROM SURFACE OR AS SPECIFIED BY THE SAMPLING PLAN	

Sample Collection/Creation Procedures

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21NEB001

Nebraska Dept. of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
REMAP	BIOLOGICAL SAMPLING PROCEDURES	Electroshock	FISH SAMPLING WHILE DOING STREAM ASSESSMENTS STATEWIDE	SURFACE WATER SECTION, 1995, S.O.P. on the Development of Data Quality Objectives., Nebraska Department of Environmental Quality, 1
WATERB	Water bottle	Water Sampler	COLLECT AND PRESERVE WATER SAMPLES IN APPROPRIATE CONTAINERS IN ACCORDANCE WITH S.O.P.	John Bender, 1998, DEQ SOP, NDEQ, 1

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21NEV-1 Nevada Dept. of Conservation and Natural Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
01	routine sample	Miscellaneous/Other		

Sample Collection/Creation Procedures

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21NJDEP1

NJ Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
10	Equal width increment (EWI)	Water Sampler		
30	Single Vertical	Water Sampler		
303D-SED	303(d) Sediment Samples		Samples collected from multiple points across the stream, composited, filtered through a sieve and placed in sample containers.	
303D-WAT	303(d) Water Samples		Metals samples collected from centroid of flow into metals grade containers by a gloved "clean hands" person. VO samples as grabs. Other samples collected as multi-point composites. Dissolved sample filtered in the field (in bag chamber for metals).	
40	Multiple Verticals	Water Sampler		
50	Point Sample	Water Sampler		
70	Grab Sample (DIP)	Water Sampler		
8010	USGS Groundwater Sampling Procedure	Water Sampler		
BACT	Bacteriology sample collection procedure	Water Sampler	Samples are collected directly into sterlized bacteriological containers. Sample bottles are filled to shoulder of bottle, stoppered and then shaken to aerate and mix.	NJDEP, 1992, Field Sampling Procedures Manual, New Jersey Department of Environmental Protection, p. 1-360
ES1	Electroshocking	Electroshock		
EWI	Equal Width Increment - Equal Transite Rate	Water Sampler	A stream transect is divided into equally spaced verticals. A sample bottle is lowered and raised at a uniform rate at each vertical. The bottle's contents are poured into a churn splitter. The churn's contents are mixed & dispensed into sample bottles .	
EWI-CHURN	Equal Width Increment (EWI) Equal Transit Rate (ETR)	Water Sampler	A stream transect is divided into equally spaced verticals. A sample bottle is lowered and raised at a uniform rate at each vertical. The bottle's contents are poured into a churn splitter. The churn's contents are mixed & dispensed into	

Sample Collection/Creation Procedures

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21NJDEP1

NJ Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			sample bottles .	
EWI-CLEAN	Equal Width Increment - Equal Transit Rate Clean Methods			
FSPM-7F1	Stream Sampling Procedures	Water Sampler		
FSPM-7F3	Grab samples from marine and estuarine waters	Water Sampler		
GRAB	Grab Sample	Water Sampler	Water sample collected from centroid of flow directly into sample container.	
GRAB-C	Grab Sample - Clean Methods	Water Sampler	Gloved "clean hands" person collects samples directly into trace metal grade containers from centroid of flow.	
GRAB-CD	Grab Sample - Clean Methods Dissolved	Water Sampler	Gloved "clean hands" person collects sample from centroid of flow into metals grade container. Sample pumped through filter in bag chamber in field. Metals grade sample containers rinsed 3x with sample then filled.	
GRAB-D	Grab Sample - Dissolved	Miscellaneous/Other	Sample is collected from the centroid of flow and filtered through a 0.45 micron filter into clean sample containers the field.	
MW-N-COL	Marine Water Nutrient collection for majority of nutrients		All nutrients with exception of Ammonia are collected in 1 50mL centrifuge tube. All bottles are put on ice.	
MW-N-COL1	Marine Water Collection of Dissolved Oxygen		Collected in 250mL glass BOD bottle. 1mL alkali iodide azide and 1mL of manganous sulfate are added while in the field. When the lab receive this, they add 1 mL of concentrated sulfuric acid.	
MW-N-COL2	Marine Water collection of chlorophyll a		Collected in 250mL amber bottle. It is then put on ice.	
MW-N-COL3	Marine Water Collection of Ammonia		Ammonia samples are collected in a 50mL centrifuge tube. In the field, 1 mL of 3.5% phenol is added to the tube. It is then put on ice.	
POINT	Point Sampling - Single Depth	Water Sampler	Sample is collected from a single depth	

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21NJDEP1

NJ Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
RBP-1	Macroinvertebrates sampling	Benthic Grab		Michael T. Barbour, Jeroen Gerritsen, Blaine D. Snyder, James B. Stribling, 1999, Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers, USEPA, Office of Water, 7-7
RBP-KICK	EPA Rapid Bioassessment Protocols Kick Net	Net/Non-Tow		
SED	Sediment Sampling	Miscellaneous/Other		
SED-COMP	Sediment - Composite	Miscellaneous/Other	Sample is collected from multiple points in the streambed, mixed in a tray, filtered through a sieve and placed in a sample container.	
SED-GRAB	Sediment - Grab Sampling	Miscellaneous/Other	Sample collected from a single point	
SED-PONAR	Sediment Composit Sampling with Petite Ponar Dredge	Benthic Dredge		

Sample Collection/Creation Procedures

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21NMEX

NM Environmental Dept./SWQB

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Water Grab Sampling			American Public Health Association, 1998, Standard Methods for the Examination of Water and Wastewater, 20th Edition., American Public Health Association, 20th Edition
SP-002	Water Composite Sample			

Sample Collection/Creation Procedures

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21OHDGW

Ohio EPA Division of Drinking and Ground Waters

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SCCP-001	Water Grab Sampling		Field acquisition of a ground water grab sample for the Ambient Ground Water Monitoring Network	Ohio EPA-DDAGW, 2002, Operating Procedures Document, Ohio EPA, 3-1 to 3-15

Sample Collection/Creation Procedures

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21PA

Pennsylvania Department of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
CHLORO	1-47mm glass fiber filter in petri dish	Miscellaneous/Other		
CONT 10	500 ml non-precleaned plastic bottle	Water Sampler		
CONT 11	125 ml prefixed plastic bottle (fecal coliform)	Water Sampler		
CONT 2	Ziplock bag 9"X13"	Water Sampler		
CONT 3	1000 ml wide mouth Nalgene polypropylene bottle	Water Sampler		
CONT 4	500 ml precleaned plastic bottle	Water Sampler		
CONT 5	125 ml precleaned plastic bottle	Water Sampler		
CONT 6	500 ml glass bottle (white cap and special label)	Water Sampler		
CONT 7	500 ml glass bottle (black cap and wide mouth)	Water Sampler		
CONT 8	1 Liter Amber glass bottle	Water Sampler		
CONT 9	125 ml plastic bottle (sterilized, blue cap)	Water Sampler		
SHOCK	Electrofishing using fish shocker	Electroshock		

Sample Collection/Creation Procedures

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21SC60WQ

SC Dept. of Health & Environmental Control

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
WQ SAMP	Collection of water for field analysis	Water Sampler		South Carolina DHEC Environmental Control Office - Bureau of Water, 1997, Environmental Investigations Standard Operating Procedures and Quality Assurance Manual, Environmental Quality Control, South Carolina Department of Health and Environmental Control, Entire Document

Sample Collection/Creation Procedures

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21SCBCH

SC Dept of Health & Environmental Control

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BCHWATSM	Beach Monitoring Water Sampling	Water Sampler		

Sample Collection/Creation Procedures

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21SCESOP

SC Dept. of Health & Environmental Control

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SWCS	Surface Water Composite Sample	Water Sampler	A volume of two liters was collected weekly and put in a five gallon (19.0L) Nalgene carboy for the individual locations of Jackson Boat Landing (SV-2010), Upper Three Runs (SV-325), Beaver Dam Creek (SV-2040), Fourmile Branch (SV-2039), Pen Branch (SV	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
SWGS	Surface Water Grab Sample	Water Sampler	Collecting a sample using the grab method involved filling a container with water directly from the water body.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --

Sample Collection/Creation Procedures

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21SCGW

SC Dept. of Health & Environmental Control

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
AGWSC	Ambient Groundwater Sample Collection	Water Sampler		

Sample Collection/Creation Procedures

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21SCSANT

Santee Cooper - South Carolina Public Service Authority

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
AIR TEMP	Ambient Air Temperature (C)	Miscellaneous/Other	Ambient temperature is measured utilizing a Fisher Scientific Model 15-021-5B thermometer in shade.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
CHPYL A	Chlorophyll a (ug/l)	Miscellaneous/Other	Chlorophyll a samples are collected in an amber 250 ml opaque HPDE bottle. Samples are filtered in the laboratory in 15 ml triplicates utilizing 25 mm type A/E filters treated with magnesium carbonate solution (1% by volume).	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
COND	Conductivity (mmhos)		Conductivity is measured in-situ, utilizing a cell with four nickel electrodes.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
DO	Dissolved Oxygen (mg/l)		Dissolved Oxygen measurements are sampled in-situ, utilizing the electrode membrane method.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
FLOW	Stream Flow (cfs)	Miscellaneous/Other	Stream flow data is collected utilizing a Price pygmy or AA flow meter.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
LAB	General Laboratory Analyses	Water Sampler		American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
LEGACY SCP	Legacy Sample Collection Procedure			
METALS-S	Metals (Sediment)	Benthic Dredge	Samples are collected utilizing a Ponar mini-dredge. All debris is removed before placement in a 250 ml nalgene container. All samples are preserved in ice only - no acidification is required.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
NUTRNT-S	Nutrients (Sediment)	Benthic Dredge	Samples are collected utilizing a Ponar mini-dredge. All debris is removed before placement in a 250 ml nalgene container. All samples are preserved in ice only - no acidification is required.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
PH	pH (SU)	Miscellaneous/Other	pH measurements are sampled in -situ utilizing a glass probe which is part of a YSI multi-parameter sonde.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
WTR TEMP	Water Temperature (C)	Miscellaneous/Other	Water temperature is measured in-situ by lowering the temperature probe in the water, profiling from	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --

Sample Collection/Creation Procedures

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21SCSANT Santee Cooper - South Carolina Public Service Authority

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			top to the bottom of the water column.	

Sample Collection/Creation Procedures

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21SCSHL

SC Dept of Health and Environmental Control

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
WQ SAMP	Collection of water for field analysis	Water Sampler		

Sample Collection/Creation Procedures

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21SDAK01

SD Dept of Environmental & Natural Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FISH001	Fish Flesh Collection Procedure	Net/Non-Tow	Gill nets are used	
SD WRAP	SD WRAP	Water Sampler	This is the procedure used by the WRAP for the collection of water samples.	
WQM001	WQM Sample collection	Water Sampler	This field procedure is used for the collection of surface water grab samples.	

Sample Collection/Creation Procedures

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21WIS

Wisconsin Dept. of Natural Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Water Grab Sample			
SP-002	Integrated Grab Sampler			

Sample Collection/Creation Procedures

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22LAGWTR

Louisiana Dept of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BMP-QAPP	Baseline Monitoring Project Quality Assurance Project Plan			Baseline Monitoring Project, 1999, Baseline Monitoring Project, Quality Assurance Project Plan, LDEQ, 198pp

Sample Collection/Creation Procedures

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31DELRBC

Delaware River Basin Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
MACROINVER	Macroinvertebrates	Trap/Substrate		
WATER1	Water Sample Collection			

Sample Collection/Creation Procedures

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31DRBCSP

Delaware River Basin Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
DEWAWATER	Routine Ambient Water Collection by NPS-DEWA	Water Sampler	Sample bottle attached to rope dropped from various bridges to collect ambient water sample	
UPDEWATER	Routine Ambient Water Collection by NPS-UPDE	Water Sampler	Water Collected either from bridge or by wading into stream where applicable and safe.	
WATER	Water Sample	Water Sampler	Bottle attached to line or collected by wading	

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31ISC2RS

Interstate Sanitation Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
ISC-SC-1	Ambient water sample collection	Water Sampler	Using the gear identified in the Gear and Equipment section, samples are collected from ambient waters for the examination of coliform species, chlorophyll a or phytoplankton.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition

Sample Collection/Creation Procedures

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31ORWUNT

Ohio River Sanitation Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
01	Grab Sample	Water Sampler	A Bailer is lowered into the river at the depth of 1.5 meters. When the Bailer is full, it is retrieved and the water is transferred to a 2 liter plastic carboy. Transfer water from the carboy to laboratory bottles with proper preservative.	USEPA, 1983, Methods for Chemical Analysis of Water and Wastes, USEPA, EPA 600/4-79-020

Sample Collection/Creation Procedures

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42SRBCWQ

Susquehanna River Basin Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Depth Integrated Sample	Water Sampler	Water samples are collected using depth-integrated samplers. The sampler faces upstream into the current and lowered through water column. Several samples are taken across a stream and composited into a churn for a vertical and horizontal integrated sample.	
SP-002	Stream Velocity Measure	Miscellaneous/Other	Stream flow determination from a series of cross sectional velocity measurements	Buchanan and Somers, 1969, Discharge Measurements in free flowing streams, United States Geological Survey, Unknown

Sample Collection/Creation Procedures

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ARDEQH2O

Arkansas Dept. of Environmental Quality

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
AMBIENT	Ambient and routine water samples	Water Sampler	Water samples are taken from streams and other waterbodies using a variety of gear. They include using only the sample bottle or using a sample bucket to take the sample.	
LAKES	Lake Samples	Water Sampler	Surface water samples collected in lakes are usually collected by submerging the water bottle and filling to a specified capacity. Samples collected at depth are taken using a horizontal, alpha water sampling bottle.	

Sample Collection/Creation Procedures

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AWQDECJN

Alaska Dept. of Environmental Conservation

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
TEST	test			

Sample Collection/Creation Procedures

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BEAR_CRK

Bear Creek Reservoir

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample			
SAMPLER	Van Dorn Bottle			

Sample Collection/Creation Procedures

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BRIGHTON

City of Brighton

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	Unknow			

Sample Collection/Creation Procedures

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BUNKER Bunker Hill Mining and Metallurgical Complex				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BHGSP	Bunker Hill Generic Sampling Procedure		This is a generic sampling procedure placeholder for all of the CdA - Bunker Hill sampling activities	

Sample Collection/Creation Procedures

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CADWR

California Department of Water Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
DWREMP	DWR Sample Collection Procedures	Water Sampler		

Sample Collection/Creation Procedures

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CAPECRD City of Cape Coral (Florida)				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BIO-GRAB	Water grab sampling for biocides		Water sample taken by hand by submerging bottle just below the surface.	
HM-PONAR	Heavy Metal Sediment Sampling		Petite Ponar grab of sediments for heavy metal analysis.	
WQ-GRAB	Water quality grab sampling.		Water samples collected for water quality sampling. Surface samples normally taken by submerging bottles just below the surface. Middle and bottom samples taken with a VanDorn water sampler.	
WQ-WPAK	Coliform bacteria sampling.	Miscellaneous/Other	Water sample taken just below the surface in a Whirl Pak for bacteria testing.	

Sample Collection/Creation Procedures

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CCAMP

Central Coast Ambient Monitoring Program

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
CCAMP03	Water Column Grab Sampling			
CCAMP_FP01	Water Quality Grab Sampling	Water Sampler	Water samples are collected below the water surface, facing the current, by inverting the bottle before submerging. Lids are immediately applied, and physical contact with lid and rim of bottle are avoided. Bottles are labeled and stored at 4C.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
CCAMP_FP02	Multi-probe Deployment	Water Sampler	The multi-analyte probe is maintained on a stable stand inside the field vehicle. A sampling container is rinsed several times with water from the site and is filled for immediate analysis by the probe. Data is both stored electronically and on paper.	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --

Sample Collection/Creation Procedures

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CHATFLD

Chatfield Reservoir

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FIELD	Unknown			
GRAB	Grab Sample			
METER	Field Measurements Using Horriba U-10 Meter		Meter measures conductivity, dissolved oxygen, pH, and temperature in the field at the site	
SAMPLER	Kemmerer -type sample device			
SEDIMENT	Sediment Sampling			

Sample Collection/Creation Procedures

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CHENPCHE **Charlotte Harbor National Estuaries Program (Florida)**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	GRAB SAMPLE			

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CHNEPCHP Charlotte Harbor National Estuaries Program (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	GRAB SAMPLE			

Sample Collection/Creation Procedures

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CHNEPCHW

Charlotte Harbor National Estuaries Program (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	GRAB SAMPLE			

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CHNEPLLB Charlotte Harbor National Estuaries Program (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample			

Sample Collection/Creation Procedures

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CHNEPTMR

Charlotte Harbor National Estuaries Program (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample			

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CHNEPTR

Charlotte Harbor National Estuaries Program (Florida)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample			

Sample Collection/Creation Procedures

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CITYFTCO

City of Fort Collins

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Sampling Procedure, River	Water Sampler		

Sample Collection/Creation Procedures

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CORIVWCH The Rivers of Colorado Water Watch Network (RiverWatch)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	unknown			

Sample Collection/Creation Procedures

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CT_DEP01

Connecticut Dept. of Environmental Protection

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BACTGRAB	Indicator Bacteria Grab Sample	Water Sampler	A 125 ml sterile nalgene water bottle is dipped below the surface of waste deep bathing water. An air space of 1" is left in the bottle to facilitate mixing prior to analytical prep.	CTBEACHQAPP - Ernest Pizzuto, 2003, QAPP-Indicator bacteria monitoring of state-owned and managed bathing areas, CT DEP Ambient Monitoring Program, revision 1 page 1

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CWSD

Centennial Water and Sanitation District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	UNKNOWN DEFAULT			

Sample Collection/Creation Procedures

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DEMOTEST

The Commission for a Good Clean Chesapeake Bay

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Water Grab Sampling	Water Sampler	See below, using any of the water sampler listed in the gear configuration section.	CGCCB_SOPS - Commission for a Good Clean Chesapeake Bay, 1991, Standard Procedures for Sampling the Chesapeake Bay, Virginia Beach Press, 290 pp
SP-002	Sediment Sampling	Benthic Grab	Sediment sampling devices are the same regardless of whether the sample is collected for chemistry, grain size, or benthic infauna analyses. Enough sediment is collected to support all three analyses types.	SAMPLE_CB - Dr. Lee Manning, 1987, Sampling the Chesapeake Bay for Fun and Profit, University of Virginia Press, 589 pp
SP-003	Fish Tissue Extraction		This method is designed to allow the researcher to remove tissue without contamination.	SAMPLE_CB - Dr. Lee Manning, 1987, Sampling the Chesapeake Bay for Fun and Profit, University of Virginia Press, 589 pp
SP-004	Electroshock Fish Survey Procedure	Electroshock	A repeated stream sweep, conducted with the heavy duty electroshock unit. Fish not fried by device are to be returned alive to the stream.	CGCCB_SOPS - Commission for a Good Clean Chesapeake Bay, 1991, Standard Procedures for Sampling the Chesapeake Bay, Virginia Beach Press, 290 pp
SP-005	Compositing of Water Samples for Low Level Organics	Miscellaneous/Other	Handling and container standard procedures for the combining of water samples into composites for further analysis.	CGCCB_SOPS - Commission for a Good Clean Chesapeake Bay, 1991, Standard Procedures for Sampling the Chesapeake Bay, Virginia Beach Press, 290 pp
SP-006	Compositing of Fish Tissue for Pesticides Analysis	Miscellaneous/Other	Sterile methods for the handling of tissue specimens as they are combined for later analysis.	CGCCB_SOPS - Commission for a Good Clean Chesapeake Bay, 1991, Standard Procedures for Sampling the Chesapeake Bay, Virginia Beach Press, 290 pp
SP-007	Netting Fish for Tissue Samples	Net/Non-Tow	Using night lighting as a lure, fish in shallow water will rise to the surface and wait to be netted by the researcher.	SAMPLE_CB - Dr. Lee Manning, 1987, Sampling the Chesapeake Bay for Fun and Profit, University of Virginia Press, 589 pp
SP-008	Macroinvertebrate Sampling	Net/Non-Tow	This procedure for the deployment and handling of the 1-meter kick net is used for small stream riffle collection of macroinvertebrates.	SAMPLE_CB - Dr. Lee Manning, 1987, Sampling the Chesapeake Bay for Fun and Profit, University of Virginia Press, 589 pp
SP-009	Otter Trawl Operation and Collection	Net/Horizontal Tow	Procedures for the deployment, recovery, and pre- and post- sample cleaning procedures for the	CGCCB_SOPS - Commission for a Good Clean Chesapeake Bay, 1991, Standard Procedures

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DEMOTEST

The Commission for a Good Clean Chesapeake Bay

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			Otter Trawl.	for Sampling the Chesapeake Bay, Virginia Beach Press, 290 pp
SP-010	Plankton Collection, open water	Net/Vertical Tow	Deployment and recovery of the vertical plankton net.	SAMPLE_CB - Dr. Lee Manning, 1987, Sampling the Chesapeake Bay for Fun and Profit, University of Virginia Press, 589 pp

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EMAP-CS

Environmental Monitoring and Assessment Program

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
COLLECT-01	Water, Subsamples-Nutrient, Chlorophyll a, and TSS: NCA-NE	Water Sampler	A seawater sample was collected from 1m below the surface, mid-water and 1m above the bottom (depth dependent) with a 5L Go-Flo® sampling bottle. At some shallow locations (water depth < 3 m) only one mid-depth water sample was taken. Duplicate water samples from the same cast were filtered aboard ship with 0.7-micron glass-fiber filter pads (not all duplicates were analyzed). The filtered water (stored in a 60 ml Nalgene bottle for nutrient analyses) and the filters (foil wrapped and placed in whirlpack for chlorophyll analysis) were immediately frozen on dry ice for shipping. Approximately 1 liter of unfiltered seawater was stored in a 1 L polypropylene bottle and stored at 4 deg C to await analysis for suspended solids.	C.J. Strobel, 2000, Coastal 2000 - Northeast component: field operations manual, USEPA NHEERL, Atlantic Ecology Division, Narragansett, RI, 68 p
COLLECT-02	Biota, Benthic Infaunal Community - Van Veen Grab	Benthic Grab	Generally three Van Veen sediment grabs were sieved through a 0.5 mm sieve. All materials retained on the sieve were placed in a separate plastic container and fixed with buffered formalin/Rose Bengal fix.	D. Reifsteck, C. Strobel (SAIC) and D. Keith (USEPA), 1993, EMAP-Near Coastal 1993 Virginian Province Field Operations and Safety Manual, U.S. Environmental Protection Agency, 172 p
COLLECT-03	Biota, Benthic Infaunal Community-Benthic Grab: EMAP-West	Benthic Grab	One sediment grab collected with a 0.1 m ² Van Veen grab sampler was sieved through a stacked (nested) set of sieves; 1.0 mm sieve prior to a 0.5 mm sieve. All organisms retained on each sieve were placed in separate wide-mouth, Nalgene containers and preserved with buffered formalin (10% final concentration with Rose Bengal added). At the laboratory, the formalin-fixed samples were transferred to 70% ethanol within 2 weeks of field collection to avoid undue deterioration of sample integrity that would further complicate identification (e.g., loss of heads/appendages and erosion of shells or exoskeletons).	U.S. Environmental Protection Agency, 2001, EMAP-National Coastal Assessment Quality Assurance Project Plan 2001-2004, USEPA, NHEERL Gulf Ecology Division, Gulf Breeze, FL, 202 p

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EMAP-CS

Environmental Monitoring and Assessment Program

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
COLLECT-04	Biota, Trawl Fish and Shellfish Collection	Net/Horizontal Tow	Trawls will be conducted by using a 16-ft otter trawl and the duration of the trawl will be for 10+-2 minutes at an over bottom speed of 3-4 knots. Replicate (two) trawls will be performed. The trawl straight line tow has Sampling Station at its center.	Tom Heitmuller, USGS, 2001, Quality Assurance Project Plan; EMAP-West-Coastal Monitoring, USEPA: EMAP, Gulf Breeze Laboratory, 152 p
COLLECT-05	Sediment, Surficial Layer: Grain/TOC/Toxicity Composites-NCA	Benthic Grab	Multiple sediment grabs were collected from each site using a Young-modified Van Veen grab or similar sampler. Each grab was nominally 440 cm ² in area and up to 10 cm in depth, but only the top two centimeters of a grab were retained for the analyses described here. A sufficient number of grabs were processed to provide three liters of sediment. The sediment composite was homogenized and separated into two fractions for storage until analysis. One fraction was frozen and used in the analysis of TOC, percent moisture and the measurement of the chemical contaminants. The second fraction was chilled but never frozen during storage, and was used for grain-size and toxicity analyses.	U.S. Environmental Protection Agency, 2001, EMAP-National Coastal Assessment Quality Assurance Project Plan 2001-2004, USEPA, NHEERL Gulf Ecology Division, Gulf Breeze, FL, 202 p
COLLECT-06	Water column sampling: EMAP-West	Water Sampler	Water column data loggers with probes used to make in situ measurements on a down cast through the water column. Equipment includes Seabird CTDs, Hydrolabs, YSI meters and LICOR light meters, including Li-Cor LI-193SA and Li-Cor LI-190SA models.	U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, USEPA NHEERL, Gulf Ecology Division, Gulf Breeze, FL, 72
COLLECT-07	Biota, Benthic Infaunal/Epifaunal Community - Van Veen Grab	Benthic Grab	One Van Veen sediment grab is sieved through a 0.5 mm sieve. Organisms retained on the screen were placed in plastic containers and fixed in 10% buffered formalin with rose bengal stain for preservation.	C.J. Strobel, 2000, Coastal 2000 - Northeast component: field operations manual, USEPA NHEERL, Atlantic Ecology Division, Narragansett, RI, 68 p
COLLECT-4F	Trawl-Fish Collection: 2000 NCA-NE	Net/Horizontal Tow	The EPA standard fish trawl was conducted which filters fish from the near bottom waters. The trawl net is a funnel-shaped high-rise	J. Kiddon, H. Buffum, 2002, EMAP-NCA Northeast 2000 Fish Trawl Metadata, U.S. Environmental Protection Agency, 9 p

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Environmental Monitoring and Assessment Program

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			sampling trawl. The net includes a 16 meter tow line, a chain sweep, 5 cm mesh wings, and a 2.5 cm cod end. Fish were herded into the net by ground wire and an overhanging panel. Standard trawls were 10 ± 2 minutes in duration with a towing speed of 2-3 knots through the water against the prevailing current (1-3 knots relative to the bottom). Different state cooperative agreements used different standard procedures: CT, MA and RI trawl duration was 20 minutes; NH was 4 minutes. Therefore, fish community measures cannot be easily compared across all states.	
CREATES-1	Sediment, composite subsample:Organic contaminants-EMAP-West	Benthic Grab	Sediment from a minimum of two grabs will be mixed and approximately 500 cc of the composited sediment will be placed in a clean, prelabeled, glass wide-mouth, 1-pint Mason jar or I-Chem jar.	Tom Heitmuller, USGS, 2001, Quality Assurance Project Plan; EMAP-West-Coastal Monitoring, USEPA: EMAP, Gulf Breeze Laboratory, 152 p
CREATES-2	Sediment, composite subsample:inorganic contaminants-E-West	Benthic Grab	Sediment from a minimum of two grabs will be mixed and approximately 200 cc of composited sediment will be placed in a clean, prelabeled, wide-mouth Nalgene jar.	Tom Heitmuller, USGS, 2001, Quality Assurance Project Plan; EMAP-West-Coastal Monitoring, USEPA: EMAP, Gulf Breeze Laboratory, 152 p
CREATES-3	Sediment, Toxicity Test Sediment: EMAP-West	Benthic Grab	Sediment from a minimum of two grabs will be mixed and approximately 2000-4000 cc (depends on the number of toxicity tests to be performed) of composited sediment will be placed in a clean, prelabeled, wide-mouth Nalgene jar.	U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, USEPA NHEERL, Gulf Ecology Division, Gulf Breeze, FL, 72
CREATES-4	Sediment, TOC and grain: EMAP-West	Benthic Grab	Sediment from a minimum of two grabs will be mixed. Approximately 100 cc of composited sediment will be placed in a small, preclean, prelabeled glass sampling jar and stored at 4 deg C for TOC analysis. Approximately 100 cc of composited sediment will be placed into a clean, prelabeled plastic (HDPE) jar and stored at 4 deg C for sediment grain analysis.	U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, USEPA NHEERL, Gulf Ecology Division, Gulf Breeze, FL, 72
CREATES-5	Sediment, Composite	Benthic Grab	Sediment from a min of three grabs will be	R. Valente and C. Strobel, 1993, EMAP-

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EMAP-CS Environmental Monitoring and Assessment Program				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
	Subsample for Inorganic Contaminants-VP		thoroughly mixed and approximately 100-150 cc of composited sediment will be placed in a clean, prelabeled, 250-ml HPDE wide-mouth bottle.	Estuaries Virginian Province: Quality Assurance Project Plan for 1993, U.S. Environmental Protection Agency, Office of Research and Development, 136 p
CREATES-6	Sediment, Composite Subsample for Organic Contaminants-VP	Benthic Grab	Sediment from a min of three grabs will be thoroughly mixed and approximately 250-300 cc of composited sediment will be placed in a precleaned, prelabeled, 500-ml glass wide-mouth jar.	R. Valente and C. Strobel, 1993, EMAP-Estuaries Virginian Province: Quality Assurance Project Plan for 1993, U.S. Environmental Protection Agency, Office of Research and Development, 136 p
CREATES-7	Sediment, Composite Subsample for Acid Volatile Sulfides-VP	Benthic Grab	Sediment from a min of three grabs will be thoroughly mixed and approximately 125 ml of composited sediment will be placed in a prelabeled, 125-ml polypropylene wide-mouth bottle.	R. Valente and C. Strobel, 1993, EMAP-Estuaries Virginian Province: Quality Assurance Project Plan for 1993, U.S. Environmental Protection Agency, Office of Research and Development, 136 p
CREATES-8	Sediment, Composite Subsample for Inorganic Contaminants-NCA	Benthic Grab	Only the top two-centimeter section from a min of three grabs will be thoroughly mixed and approximately 100-150 cc of composited sediment will be placed in a clean, prelabeled, 250-ml HPDE wide-mouth bottle.	U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, USEPA NHEERL, Gulf Ecology Division, Gulf Breeze, FL, 72
CREATES-9	Sediment, Composite Subsample for Organic Contaminants-NCA	Benthic Grab	Sediment from a min of three grabs will be thoroughly mixed and approximately 250-300 cc of composited sediment will be placed in a precleaned, prelabeled, 500-ml glass wide-mouth jar.	C.J. Strobel, 2000, Coastal 2000 - Northeast component: field operations manual, USEPA NHEERL, Atlantic Ecology Division, Narragansett, RI, 68 p
CREATEW-2	Water, Subsamples-Nutrient, Chlorophyll a, TSS: EMAP-West	Water Sampler	Nutrients and chlorophyll a: a disposable, graduated 50-cc polypropylene syringe fitted with a stainless steel or polypropylene filtering assembly was used to filter a parent water sample through 47 mm GF/F filters. 100-1,500 ml seawater was filtered. 1 ml of saturated MgCO ₃ was then filtered through each pad to buffer the chlorophyll sample against degradation. Approximately 40 ml of filtrate was preserved for nutrient analyses in a 60 ml Nalgene bottle. Total suspended solids: approximately 1 liter of	U.S. Environmental Protection Agency, 2001, National Coastal Assessment: Field Operations Manual, USEPA NHEERL, Gulf Ecology Division, Gulf Breeze, FL, 72

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EMAP-CS

Environmental Monitoring and Assessment Program

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			unfiltered seawater was taken from the water sampler at discrete depths and poured into a 1 L polypropylene bottle.	

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EPA_R7

US EPA Region 7

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SECCHI	secchi disk transparency			

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FLPRMRWS **Peace River Manasota Regional Water Supply Authority**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	grab sample			

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FWC/FWRI

Fish Wildlife Conservation / Wildlife Research Institute(FL)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
CREIMP	Point Count		The CRMP collects two forms of data over 43 coral sites in the Florida Keys National Marine Sanctuary. First, a pair of scientific divers takes a census of stony coral species present in a 2 x 22 m sampling station (image at top). Second, the 2 x 22 m station is divided into three, 22 m long transects. Video data are collected along that transect using a downward pointing camcorder (image above). The video data are later analyzed in the lab for quantitative measurements of percent coral cover.	

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GLENDALE

City of Glendale

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	Unknown			

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HI301H

City and county of Honolulu

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FISHING	Collection of fish for bioaccumulation		Hook and line used to catch fish.	
FISHPROC	Fish processing for Bioaccumulation studies		Fish caught by hook and line for Bioaccumulation are sized (length and weight) by WQL and then shipped at 4C to contract laboratory. The contract laboratory excises fillets for muscle (and liver for Honouliuli) using TetraTech guidance.	
PLSAMP	WWTP sampling procedures		<p>Permanent ISCO refrigerated samplers are used for all routine composite sampling. The sample collection is paced by signal from appropriate flowmeter. The 24-hour sampling period normally runs from 8AM to 8AM. A plastic carboy collects the sample which is then poured into precleaned plastic containers. The containers are chilled with ice and transported to the laboratory.</p> <p>Grab samples for field tests are taken in conjunction with the composite sample collection. The sample is pulled as a manual grab using the ISCO sampler and pH and temperature are taken immediately.</p> <p>HEM/SGT-HEM samples are collected at 8 hour intervals, at @ 1:30 AM, 9:30 AM, and 5:30 PM. The samples are collected directly into precleaned and solvent rinsed glass containers and are acidified with HCl. In most cases, the samples are stored in a secured refrigerator on-site for later pickup. The reported result for HEM/SGT-HEM are calculated using the individual grab results and the relative flows percentage at the time of collection.</p> <p>Enterococcus samples are collected between 12 noon and 3:00 PM. A sterilized scoop is used to grab the sample and the sample is aseptically</p>	

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HI301H **City and county of Honolulu**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			<p>poured into a sterile plastic container. The sample is chilled with ice and transported to the laboratory.</p> <p>For Priority Pollutant (and monthly Chlordane and Dieldrin) sampling, composite samples are collected using portable ISCO samplers hooked up to the flowmeter signal. Only Teflon tubing is used and sample is collected into precleaned glass jars. Due to the large volume required, multiple jars are collected during the 24-hour period and combined together using a large teflon mixing bag. The multiple jars are secured in the laboratory receiving refrigerator until the sampling is completed. The combined sample is then poured into the appropriate containers (plastic with HNO₃ acidification for metals, glass with no preservatives for organics).</p> <p>Grab samples for Volatiles are collected using a precleaned scoop. The sample is carefully poured into 40 mL VOA vials and sealed. Total Cyanide sample is also collected as a grab into plastic container with NaOH preservative. All samples are chilled with ice and transported to the laboratory.</p>	
RWSAMP	Receiving water sampling procedures		<p>For Nearshore and Offshore stations, samples are collected from a boat. GPS is used to locate stations. Surface samples are collected directly into the container or by using an appropriately prepared scoop. Mid-depth and bottom samples are collected using a van dorn device.</p> <p>For shore stations, landmarks are used to locate the sites. Samples for Enterococcus are collected using sterile scoops. The sample is then poured</p>	

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HI301H **City and county of Honolulu**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			into the sterilized plastic sample container and chilled with ice.	
SEDIMENT	Sediment sampling			

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IL_EPA		Illinois EPA		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
IL_EPA	DEFAULT SAMPLE COLLECTION PROCEDURE	Miscellaneous/Other		

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IOWATER Iowa Volunteer Water Monitoring Program				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
IOWATER01	IOWATER Volunteer Monitoring Sample Collection			Rich Leopold et al., 2001, IOWATER Training Manual, IDNR, Rev. 4/2001

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KWMNDATA Keystone Watershed Monitoring Network (Pennsylvania)				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BACTERIA	Bacteria Sampling for Center in the Park SEC	Miscellaneous/Other	Bacteria Sampling and testing for Center in the Park Senior Environment Corps. CIP monitors and collects samples, and Chestnut Hill College conducts the lab work.	Citizens' Volunteer Monitoring Program, 2001, Sampling of Surface Waters for Recreational Use Suitability, Pennsylvania Department of Environmental Protection, pp. 1-4
MACRO	Macroinvertebrate Count	Miscellaneous/Other		
MSLM	Mountain Springs Lake Monitoring	Water Sampler	Used a Van Dorn Water Sampler	Unknown, 19--, No Cite - Method Not Cited, Unknown, Vol --
TSS	Total Suspended Solids			

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LAKELAND		City of Lakeland		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
HWBACTI	Bacteria sampling on Lake Hollingsworth	Water Sampler		American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
L1	Water Quality Sampling	Water Sampler	Field sampling for water quality in various city lakes.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
L2	Macroinvertebrate Sampling	Benthic Grab	MAcroinvertebrate sampling in various city lakes, using petite ponar or ekman dredge.	USEPA, Donald J. Klemm, Philip A. Lewis, Florence Fulk, and James M. Lazorchak, 1990, Macroinvertebrate Field and Laboratory Methods for Evaluating the Biological Integrity of Surface Waters, USEPA, Environmental Monitoring Systems Laboratory- Cincinnati, Office of Research and Development, 600/4-90/030
L3	Phytoplankton Sampling - grab sample	Miscellaneous/Other	Grab sample of Phytoplankton for various city lakes	Dr. St. Amand, A., 1990, HPMA Method for producing algal sample slides for Phytoplankton Analysis, University of Notre Dame, 1
L4	field observation		secchi disk	Hydrolab, 1999, Field Observations, City of Lakeland, 1

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MDE DAT01

Maryland Dept. of the Environment Dredging Ambient Data

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
1	Collection of the Benthos	Benthic Grab	A 0.0529 cubic meter Ponar Dredge is used to collect benthic samples. Three Ponar replicates are collected from each station. Samples are rinsed over a 0.5-mm sieve to separate the benthos from the sediments.	
2BGVV	Collection of Benthos with Van Veen	Benthic Grab	A 0.1 m ² Van Veen is used to collect benthic samples. Three samples are collected from each station. Samples are rinsed over a 0.5-mm sieve to separate the benthos from the sediments.	
3BCGR	Gravity Core of the Benthos	Benthic Corer	Core samples of the benthos are collected using a Benthos-type gravity corer (Model #2171) with clear cellulose acetate butyrate liners, (diameter of 6.3).	
4BGPT	Peterson Grab	Benthic Grab	A Peterson Grab is used to collect the upper 8 - 10 cm of sediment at each station. Sample area of the Peterson Grab is 305 x 305 mm and the volume is 9890 mL.	

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MDEDAT03 **Maryland Dept. of the Environment Toxics Data**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Water Grab Sampling			

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MDEDAT04 MD Dept. Environment Ambient Water Quality Data				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BOAT	Boat Station Collections	Water Sampler	Boat station water quality samples consist of surface and bottom samples. They are collected by lowering a submersible pump equipped with a vinyl hose up to 150 feet in length to the desired depth	Annapolis Field Office, Water Quality Monitoring Division, 2001, Total Maximum Daily Load (TMDL) Quality Assurance Project Plan (QAPP) Eutrophication Sampling Component, Maryland Department of the Environment, Vol. 1
LAND-BR	Land Station Collection from Bridge	Water Sampler	All samples collected from land are surface samples that are collected by lowering buckets from bridge crossings. Bridge samples are collected using a 2.5 gallon plastic or stainless steel bucket, with a 10-50 ft rope securely attached to the handle.	Annapolis, MD Field Operations, 2001, STANDARD OPERATING PROCEDURES FOR THE COLLECTION AND HANDLING OF WATER SAMPLES, Maryland Department of the Environment, Vol.1 Appendix A
LAND-DIR	Land Collections Directly from Water Source	Water Sampler	Sample containers consist of one pre-labeled half-gallon plastic bottle; one pre-labeled one-quart plastic bottle; and one liter plastic container	Annapolis, MD Field Operations, 2001, STANDARD OPERATING PROCEDURES FOR THE COLLECTION AND HANDLING OF WATER SAMPLES, Maryland Department of the Environment, Vol.1 Appendix A

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MDEDAT08 **Maryland Dept. of the Environment Beaches Data**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-001	Water Grab Sampling			

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MDE DAT09

Maryland Dept. of the Environment Risk Assessment Data

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-003	Fish Tissue Extraction	Miscellaneous/Other		
SP-006	Compositing of Fish Tissue for Pesticides Analysis	Miscellaneous/Other		
SP-007	Netting Fish For Tissue Sample	Net/Non-Tow		
SP-009	Otter Trawl Operation and Collection	Net/Horizontal Tow		

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MEDEP Maine Department of Environmental Protection				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BM-MAC-1	Standard Macroinvertebrate Sample	Trap/Substrate		Maine Department of Environmental Protection, 2002, Methods for Biological Sampling and Analysis of Maine's Waters, MDEP, Augusta ME, 2002
BM-MACEX-1	ME DEP Qualitative Macroinvertebrate Method	Net/Non-Tow		
BM-MACEX-2	Ekman Grab - Macroinvertebrate	Benthic Grab		
BM-MACEX-3	Experimental Macroinvertebrate Sample	Miscellaneous/Other		
BP-PER-1	Periphytometer Slides	Miscellaneous/Other		Maine Department of Environmental Protection, 1999, Periphyton Quality Assurance Project Plan, MDEP, Augusta, ME, 1999
BP-PER-2	Natural Substrate Scrapings	Trap/Substrate		Maine Department of Environmental Protection, 1999, Periphyton Quality Assurance Project Plan, MDEP, Augusta, ME, 1999
BP-WAT-1	Water Chemistry Sample	Water Sampler		Maine Department of Environmental Protection, 1999, Periphyton Quality Assurance Project Plan, MDEP, Augusta, ME, 1999
M-COLLECT	Biological sample collection by hand	Miscellaneous/Other		
M-SEDGRAB	Sediment grab sample	Benthic Grab		
M-TRAP	Biological sample collection with trap	Trap/Substrate		
R-WATER	Water sample collection for rivers	Water Sampler		

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MNPCA1 Minnesota Pollution Control Agency				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
CF	Composite sample with auto-sampler	Water Sampler	Composite sample with auto-sampler	
CF-F	Composite sample, flow-weighted/flow-paced with auto-sampler	Water Sampler	Composite sample, flow-weighted/flow-paced with auto-sampler	Minnesota Pollution Control Agency Quality Assurance Program, 2000, www.pca.state.mn.us/programs/qa_p.html , Minnesota Pollution Control Agency, all pages
CF-T	Composite sample, flow-weighted/time-paced with auto-sampler	Water Sampler	Composite sample, flow-weighted/time-paced with auto-sampler	Minnesota Pollution Control Agency Quality Assurance Program, 2000, www.pca.state.mn.us/programs/qa_p.html , Minnesota Pollution Control Agency, all pages
CM	Composite sample from multiple locations	Water Sampler	Composite sample from multiple locations on a waterbody, combined with a churn splitter.	Minnesota Pollution Control Agency Quality Assurance Program, 2000, www.pca.state.mn.us/programs/qa_p.html , Minnesota Pollution Control Agency, all pages
CO	Composite sample (other)	Water Sampler	Composite sample (other)	
CT-T	Composite sample, Flow-triggered, Time-paced	Water Sampler	Automatic sampling at regular time intervals triggered by a pre-set increase in stream water level.	
D-T	Discrete sample, time-paced with auto-sampler	Water Sampler	Discrete sample, time-paced with auto-sampler	
G	Grab sample	Water Sampler	Submerge and fill a water sampling vessel, or sample directly into the sample bottle provided by the analytical laboratory, at a single point in a waterbody.	Minnesota Pollution Control Agency Quality Assurance Program, 2000, www.pca.state.mn.us/programs/qa_p.html , Minnesota Pollution Control Agency, all pages
LKDEPTH	Lake depth point sampling	Water Sampler	Lake water is sampled at a discrete depth in the water column using a vertical Kemmerer- or Van Dorn-type sampler.	Minnesota Pollution Control Agency Quality Assurance Program, 2000, www.pca.state.mn.us/programs/qa_p.html , Minnesota Pollution Control Agency, all pages
LKSURF2M	Lake surface 2-meter depth-integrated sampling	Water Sampler	Sample is collected by lowering a 2-meter-long, 2-inch-diameter PVC pipe vertically into the water, capturing the water in the pipe by stoppering the top end, raising the tube, and then releasing the water into a 2L bottle by removing the stopper.	Minnesota Pollution Control Agency Quality Assurance Program, 2000, www.pca.state.mn.us/programs/qa_p.html , Minnesota Pollution Control Agency, all pages

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MNPCA1

Minnesota Pollution Control Agency

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
METALS1	Continuous-flow sampling, Clean Hands technique	Water Sampler	Lower teflon collection tube to a representative depth of the waterbody. Pump water into sample collection bottles. Tubing was cleaned with site water for 20 minutes between station visits.	USEPA, 1996, Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels., USEPA, EPA 821/R-96-008

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MNPCAG Minnesota Pollution Control Agency ground water data

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SW-BASIC	Generic GW Sampling			
SW-GAS	Gas Sampling			
SW-SOIL	Soil Sampling			

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MONT-DEQ Montana Department of Environmental Quality				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
1	Unknown, Historic Data, Migrated from STOREASE in May 1999		STOREASE contained data downloaded from the mainframe STORET system and data that was entered directly into the PC-based STOREASE system. STOREASE contained many more fields and attributes than allowed in the 'old' STORET System.	
CHLORPHYL2	Chlorophyll, rock substrate		Modification of the APHA procedure for sampling & extraction. Entire rocks sampled & chlorophyll extracted - surface area calculated w/ special procedure. See MT SOP for method details. Post-extraction analytical procedure is standard.	Montana Department of Environmental Quality, 1995, Standard Operating Procedures Manual, MT DEQ, 1
COMP-H2O	Composite Sample, water		Collected by combining equal volumes of two or more grab samples collected at a fixed interval of time.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
DI	Depth Integrated Water Sample	Water Sampler		
FLBS-IVS	FLBS Integrated Vertical Sample, Water	Water Sampler	Nalgene PUR ester grade tubing. An individual vertical integrated sample collected in a Nalgene PUR ester grade hose, mixed in a HDPE carboy, and a single subsample poured into a sample bottle. Clean hose, carboy and sample bottle are rinsed on site.	
FLBS-VD	FLBS Van Dorn Sample, Water	Water Sampler		
GRAB	Grab Sample, water		An individual discrete sample collected over a period of time not > 15 minutes. Clean bottles are rinsed on site - sample is collected using MT DEQ SOP	Montana Department of Environmental Quality, 1995, Standard Operating Procedures Manual, MT DEQ, 1
GRAB-BACT	Grab Sample, Water Bacteriology		Grab samples for water bacteriology are taken using a standard grab procedure with a sterile sample collection bottle provided by the analytical laboratory. Care is taken not to touch the inside of the bottle or lid.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
GRAB-X3	Grab Sample, water, three		An individual discrete sample collected over a	Montana Department of Environmental Quality,

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MONT-DEQ Montana Department of Environmental Quality				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
	sample bottles		period of time not > 15 minutes. Clean bottles are rinsed on site - sample is collected using MT DEQ SOP - 2.5 L total - three containers for nutrients, metals, solids & commons.	1995, Standard Operating Procedures Manual, MT DEQ, 1
GW	Ground Water Sampling, bailer	Water Sampler	Groundwater sampling is accomplished by bailing or pumping - quantity of water removed before sample taken so sample is representative of water in the formation.	Montana Power Company, Environmental Engineering Department, Colstrip Project Division, 1997, Water Resources Monitoring Plan, Colstrip Project Division, Environmental Engineering Department, Colstrip Project Division, Montana Power Company, Rev 3, June 25 1997
MACRO-HESS	Macroinvertebrate Sampling, Hess Sampler	Trap/Substrate		Montana Department of Environmental Quality, 1995, Standard Operating Procedures Manual, MT DEQ, 1
MACRO-KICK	Macroinvertebrate, Traveling Kick	Net/Non-Tow	This procedure for the deployment and handling of the 1-meter kick net is used for small stream riffle collection of macroinvertebrates. (Standard D net and travelling kick per MT DEQ SOP)	Montana Department of Environmental Quality, 1995, Standard Operating Procedures Manual, MT DEQ, 1
PERI-1	Periphyton Sampling, scraped substrate		Scrape the entire surface of several rocks, lifting the algal film off from nearshore sediments. A stainless steel teaspoon is a good all-around tool for collecting microalgae.	Montana Department of Environmental Quality, 1995, Standard Operating Procedures Manual, MT DEQ, 1
SED-1	Sediment Collection, Sieved (.062 mm)		Saturated sediment is collected and sieved in the field via gravity through a 0.062mm nonmetallic mesh inserted onto a large diameter plastic funnel. Site water is used to wet sieve 100 grams of fines into a large wide-mouth container.	Montana Department of Environmental Quality, 1995, Standard Operating Procedures Manual, MT DEQ, 1

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MT-DEQ		Montana DEQ		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
25-CM2	Periphyton sampling, template (25cm2) scraped substrate		A flexible template (25cm2) is placed over stones along the transect. The area within the template is scraped/scrubbed clean. Samples are analyzed for chlorophyll a. Method is used for diatom or Nostic films or short uniform growths of attached filaments	
5.7-CM2	Periphyton Sampling, core sample 5.7cm2 area		Core sample of the bottom is collected using a cut-off 60 cc syringe. After collecting several vertical inches of sediment the core is extracted all is discarded except for the upper 1 cm. This is analyzed for chlorophyll a and corrected for phaeophytins	
710-CM2	Periphyton Sampling, metal hoop (710cm2)		Metal hoop (710 cm2) is placed over bottom of stream and the bulk of all algal or macrophyte material within the hoop is collected. This captures plant material including that in the water column (vertically integrated).	
BACT	Grab Sample, Water Bacteriology		Grab samples for water bacteriology are taken using a standard grab procedure with a sterile sample collection bottle provided by the analytical laboratory. Care is taken not to touch the inside of the bottle or lid.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
CHLPHL-2	Chlorophyll, rock substrate		Modification of the APHA procedure for sampling & extraction. Entire rocks sampled & chlorophyll extracted - surface area calculated. See MT SOP for method details. Post-extraction analytical procedure per Standard Methods (APHA).	American Public Health Association, 1998, Standard Methods for the Examination of Water and Wastewater, 20th Edition., American Public Health Association, 20th Edition
COMP-H2O	Composite Sample, water		Collected by combining equal volumes of two or more grab samples collected at a fixed interval of time.	MT DEQ MDM, 1995, Standard Operating Procedures Manual, Montana Department of Environmental Quality, Volume 1
DI	Depth Integrated Water Sample	Water Sampler		
GRAB	Grab Sample, water		An individual discrete sample collected over a period of time not > 15 minutes.	MT DEQ MDM, 1995, Standard Operating Procedures Manual, Montana Department of Environmental Quality, Volume 1

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MT-DEQ		Montana DEQ		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB-X3	Grab Sample, water, three sample bottles		An individual discrete sample collected over a period of time not > 15 minutes. Clean bottles are rinsed on site - sample is collected using MT DEQ SOP - usually about 2.5 L total - three separate containers for nutrients, metals, & solids/commons.	MT DEQ MDM, 1995, Standard Operating Procedures Manual, Montana Department of Environmental Quality, Volume 1
GW-BAILER	Ground Water Sampling, bailer	Water Sampler	Groundwater sampling is accomplished by bailing or pumping - quantity of water removed before sample taken so sample is representative of water in the formation.	
HESS	Macroinvertebrate Sampling, Hess Sampler	Trap/Substrate		
IG	Integrated Grab		Integrated sample collected from different points simultaneously, or within the time frame of a single discreet sample. Typically, a mixture of samples representing various points in the stream cross-section proportional to relative flow.	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
JAB	JAB Macroinvertebrate sample collection using standard D-Net	Net/Non-Tow		
KICK	Macroinvertebrate, Traveling Kick	Net/Non-Tow	This procedure for the deployment and handling of the 1-meter kick net is used for small stream riffle collection of macroinvertebrates. (Standard D net and travelling kick per MT DEQ SOP)	MT DEQ MDM, 1995, Standard Operating Procedures Manual, Montana Department of Environmental Quality, Volume 1
PERI-1	Periphyton Sampling, scraped substrate		Scrape the entire surface of several rocks, lifting the algal film off from nearshore sediments. A stainless steel teaspoon is a good all-around tool for collecting microalgae.	MT DEQ MDM, 1995, Standard Operating Procedures Manual, Montana Department of Environmental Quality, Volume 1
PHYTOPLANK	Phytoplankton sampling - quantitative filtration		Phytoplankton samples are collected by filtering a known volume of water through glass fiber or membrane filters with an effective pore size of 0.45 um. For low densities collect a sample of up to 6 L. For richer eutropic waters 0.5 - 1 L.	
SED-1	Sediment Collection, Sieved		Saturated sediment is collected and sieved in the	MT DEQ MDM, 1995, Standard Operating

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MT-DEQ		Montana DEQ		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
	(.062 mm)		field via gravity through a 0.062mm nonmetallic mesh inserted onto a large diameter plastic funnel. Site water is used to wet sieve 100 grams of fines into a large wide-mouth container.	Procedures Manual, Montana Department of Environmental Quality, Volume 1
UNKNOWN	Unknown Sample Collection Procedure		Specific sample collection procedure information for this sample was either unknown or unavailable at the time the data was processed for loading into STORET.	

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MWRD

Metro Waste Water Reclamation District

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab Sample using water sampler	Water Sampler		
PROBE	Multiparameter Water Quality Monitoring Sonde	Miscellaneous/Other		
SECCHI	Secchi Disc			
SHOCK	Bank electrofishing unit.	Electroshock		

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MWRDSTOR

Metropolitan Water Reclamation District of Greater Chicago

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
EPA METHOD	EPA Methods			USEPA, 1994, Methods for the Determination of Metals in Environmental Samples, Supplement I, USEPA, EPA 600-R-94-111
STD. METH	Standard Methods; 18th Edition			American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition

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OKCONCOM		Oklahoma Conservation Commission		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
010	Sample Collection			
020	Width/Depth Integrated			
041	Discharge Interval - Automated			
090	Point/Pipe Sample			
COMBINED	Fish Collection Procedure- Combined Processes	Miscellaneous/Other	<p>The collection of fish by OCC-WQ follows a modified version of the EPA Rapid Bioassessment Protocol V (EPA, 1989) supplemented by other documents. Specific techniques for, and relative advantages of seining and electrofishing vary considerably according to stream type and conductivity. The specifics are discussed in detail in Fisheries Techniques (edited by L.A. Nielsen and D.L. Johnson and published by the American Fisheries Society 1983). The collection of fish involves the use of two collection methods, seining and electroshocking. The combination of methods was selected in order to produce a representative fish collection. Variations of habitat, type of fish, and water chemistry dictate the use of different collection techniques. In general, each stream is sampled for a distance of 400 m. Seining is conducted before shocking. Seine height is dictated by water depth, and length is determined by width of the water being sampled. If possible, the seine should be 15-25% longer than the width of the waterbody being sampled and about 25% higher than the depth of the water. The seine is hauled with the current because fish tend to orient towards the current. Electrofishing involves the use of a backpack shocker that consists of a trailing stainless steel cable electrode and ring electrode mounted on the end of a fiberglass pole. The shocking team consists of at least two people. One carries and operates the shocker while the other(s) net</p>	

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Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			<p>stunned fish. The shocker is most useful where a seine cannot be used effectively in areas such as brush piles, rootwads, and cobble substrates. The forward electrode is gradually passed back and forth as the team walks downstream. As fish are stunned, they usually roll over and become more visible, allowing the netters to see and capture them. In waters of high conductivity (> 1000 $\mu\text{S}/\text{cm}$) electroshocking is ineffective, due to the highly conductive nature of the water. Under these conditions, only seining is conducted. In general, all fish are placed in 10% formalin immediately after capture. However, if larger fish (> 100 g) can be positively identified in the field, they are returned to the water in a location where recapture is unlikely. All large fish released are photographed on print film. A representative photograph is taken when large numbers of one fish species is collected and released. Collected organisms are identified to species by an experienced taxonomist.</p>	
RI-KICK	Benthic Kick Procedure for Riffle Habitats	Miscellaneous/Other	<p>Collection of Benthic Macroinvertebrates from Rocky Riffles: A. Suitable Substrate - A riffle is defined as any sudden downward change in the level of the streambed such that the surface of the water becomes disrupted by small waves. For this collection method the substrate of the riffle must be composed of gravel, or cobble from 1" to 12" in the longest dimension. Riffles with substrates of bedrock or tight clay are not suitable. B. Where to Sample the Riffle - Three 1 m² areas of the riffle must be sampled. They can be square, rectangular or trapezoidal so long as each area equals 1 m² in area. One should be in the fastest part of the riffle where the largest</p>	

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			<p>rocks and the smallest amount of interstitial sediment will generally be found. The second should be in the slowest part of the riffle, often near the edge of the stream where the smallest rocks and the greatest amount of interstitial sediment will be found. The third sample should be in an area intermediate between the first two.</p> <p>C. Method of Collecting the Sample - Support a 1-m² kick net composed of a double layer of fiberglass window screen or a net of number 30 mesh in such a way that the current will carry any organisms dislodged from the substrate into it. The bottom of the net should be tight against the bottom of the stream and the current must be sufficient to insure that dense organisms such as small mollusks will be carried into the net from the sampling area. There is no definite cutoff for stream velocity in the sampling area, but if possible, riffles with average velocities of 1 foot/second or greater are preferred and should be chosen if possible. D. By kicking the substrate, vigorously agitate the substrate of a 1-m² area of the bed of the riffle immediately upstream of the riffle until all rocks and sediment to a depth of at least five inches have been thoroughly scraped against each other. Organisms living between and upon the rocks will have been dislodged and carried into the net by the current. Any rocks too large to kick should be brushed by hand on all surfaces. This can be done using your hands or with the aid of a brush. If a brush is used, you must be very careful to clean it after each site to prevent contamination of the next sample with invertebrates from the previous site. Continue agitation and brushing until it can be seen that the area being sampled is producing no new detritus,</p>	

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			<p>organisms, or fine sediment. E. At this point, rinse leaves, sticks and other large debris caught in the net in the current in a manner such that organisms on them are carried into the net. When the volume of the sample is reduced so that three 1 m² samples will loosely fill a 1 quart mason jar three fourths (3/4) full or less, remove all of the material from the net and place it in the mason jar. In no case should the Mason jar be filled more than 3/4 full of loose sample. Add 100% ethanol to the jar until the sample is covered and there is free ethanol on top of the sample. There should always be enough room in the jar to have at least 5 cm (2 inches) of free ethanol over the sample.</p>	
SEINE	Seine Fish Collection Procedure	Miscellaneous/Other	<p>Seining is conducted before shocking since fish that utilize cover in the stream will generally not leave the area when disturbed. These fish are most efficiently collected by shocking and should remain when electroshocking commences. Seining is performed with nets of various sizes with ¼" mesh. Seine height is dictated by water depth, and length is determined by width of the water being sampled. If possible, the seine should be 15-25% longer than the width of the waterbody being sampled and about 25% higher than the depth of the water. The amount of obstructions in the stream will often preclude the use of longer seines however. When this situation occurs, the crew leader will decide on the most effective combination of seines. OCC utilizes 4 and 6 foot seines in 10, 20, and 30-foot lengths. This will allow the center of the net to form a bag behind the operators where the fish are more likely to stay in the net. The seine is hauled with the current because fish tend to orient</p>	

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			<p>towards the current. In general, all fish are placed in 10% formalin immediately after capture. However, if larger fish (> 100 g) can be positively identified in the field, they are returned to the water in a location where recapture is unlikely. All large fish released are photographed on print film. A representative photograph is taken when large numbers of one fish species is collected and released. Collected organisms are identified to species by an experienced taxonomist.</p>	
SHOCK	Electroshocking Fish Collection Procedure	Miscellaneous/Other	<p>Electrofishing involves the use of a backpack shocker that consists of a trailing stainless steel cable electrode and ring electrode mounted on the end of a fiberglass pole. The shocking team consists of at least two people. One carries and operates the shocker while the other(s) net stunned fish. The shocker is most useful where a seine cannot be used effectively in areas such as brush piles, rootwads, and cobble substrates. The forward electrode is gradually passed back and forth as the team walks downstream. As fish are stunned, they usually roll over and become more visible, allowing the netters to see and capture them. In waters of high conductivity (> 1000 μS/cm) electroshocking is ineffective, due to the highly conductive nature of the water. Under these conditions, only seining is conducted. In general, all fish are placed in 10% formalin immediately after capture. However, if larger fish (> 100 g) can be positively identified in the field, they are returned to the water in a location where recapture is unlikely. All large fish released are photographed on print film. A representative photograph is taken when large numbers of one fish species is collected and released. Collected</p>	

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Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			organisms are identified to species by an experienced taxonomist. NOTE: When necessary a Boat-Mounted shocker is used.	
SV-KICK	Benthic Kick Procedure for Streamside Vegetation Habitats	Miscellaneous/Other	<p>Collection of Macroinvertebrates from Streamside Vegetation Habitats: A. Determine Suitable Substrate - Any streamside vegetation in current that offers fine structure for invertebrates to dwell within or upon is suitable. The vegetation being sampled must be in the current so that it offers suitable habitat for organisms which collect drifting particles or which need flowing water for other reasons. This habitat will often be found along the undercut banks of runs and bends where the fine roots of grasses, sedges, and trees, such as willow and sycamore, hang in the water. B. Method of Collecting the Sample - This type of sample should be collected with a dip net made of #30 size mesh material. The net should be placed around or immediately downstream of the vegetation being sampled. The organisms can be dislodged from the roots either by vigorously shaking the net around the roots or by shaking the roots by hand while the roots is inside the net. C. Where and How Long to Sample - Sampling should continue for 3 minutes of actual root shaking. Do not count the time that elapses between sampling areas. Be careful to only sample roots in current. Usually, only one or two sides of a given rootmass are in current. Be careful not to sample the backside of a rootmass that is in still water. D. At this point, rinse leaves, sticks and other large debris caught in the net so that organisms are not lost. When the volume of the sample is reduced so that it will loosely fill a 1-quart mason jar three fourths (3/4) full or less, remove all of the material</p>	

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			from the net and place it in the mason jar. In no case should the Mason jar be filled more than 3/4 full of loose sample. Add 100% ethanol to the jar until the sample is covered and there is free ethanol on top of the sample. There should always be enough room in the jar to have at least 5 cm (2 inches) of free ethanol over the sample.	
UNK	Unknown			
WD-KICK	Benthic Kick Procedure for Woody Debris Habitats	Miscellaneous/Other	Collection of Macroinvertebrates from Woody Debris: A. Determine Suitable Substrate - Any dead wood with or without bark in the stream is suitable as long as it is in current fast enough to offer suitable habitat for organisms which collect drifting particles or which need flowing water for other reasons. The final sample should consist of organisms collected from an even mixture of wood of all sizes and in all stages of decay. B. Method of Collecting the Sample - This type of sample should be collected with a dip net made of #30 size mesh material. The net should be placed around or immediately downstream of the debris being sampled. The organisms can be dislodged from the debris either by vigorously shaking the net around the woody debris or by shaking the debris by hand while the debris is inside the net. Large logs that are too big to shake should be brushed or rubbed vigorously by hand while the net is held immediately downstream. C. Where and How Long to Sample - Sample for total of 5 minutes counting only the time that debris is actually being agitated. Include as many types of debris in the sample as possible. These types often include wood that is very rotten and spongy with or without bark, wood that is fairly solid which has loose and rotten bark, wood that is	

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Procedure ID	Procedure Name	Gear Group Name	Description	Citation
			solid with firmly attached bark and any combination of these states. They should range in size from 1/4" to about 8" in diameter. D. After sampling, rinse leaves, sticks and other large debris caught in the net so that organisms are not lost. When the volume of the sample is reduced so that it will loosely fill a 1-quart mason jar three fourths (3/4) full or less, remove all of the material from the net and place it in the mason jar. In no case should the Mason jar be filled more than 3/4 full of loose sample. Add 100% ethanol to the jar until the sample is covered and there is free ethanol on top of the sample. There should always be enough room in the jar to have at least 5 cm (2 inches) of free ethanol over the sample.	

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PREQB-SW		Puerto Rico		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB-001	grab sampling	Water Sampler		

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R2-LAB		New York		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
BCH-HELI	Collection for Summer Helicopter Sampling	Water Sampler		
SOP2-84004	SOP for Water and Sediment Sampling from the Helicopter	Water Sampler		

Sample Collection/Creation Procedures

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R9VOL

Volunteer Monitoring Groups in EPA Region 9 (CALIFORNIA)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FP-001	Maacama Field Procedure	Water Sampler		

Sample Collection/Creation Procedures

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SACWSD **South Adams County Water and Sanitation District**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	Default Unknown			

Sample Collection/Creation Procedures

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SDGEO

South Dakota Geological Survey

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GEO1	Ground Water Sample Collection Procedure	Water Sampler	Ground Water sample collected from well using a submersible pump. Water placed in a plastic sample bottle.	

Sample Collection/Creation Procedures

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SDWRAP		SD Dept of Environmental & Natural Resources		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
FAGRABOT	Bottle	Water Sampler	Facility grab sample with a bottle.	
FAMSRMET	Meter-Observation	Miscellaneous/Other	Facility measurement with a meter or a facility observation.	
LAACMWSP	Water pump	Miscellaneous/Other	Lake composite algae sample with a water pump.	
LAAGRVAN	Van Dorn bottle	Miscellaneous/Other	Lake algae grab sample with a Van Dorn bottle.	
LAAGRWSP	Water Pump	Miscellaneous/Other	Lake algae grab sample with a water pump.	
LABLKBOT	Blank Sample	Water Sampler	Blank lake sample with a bottle.	
LACOMPPN	Petit Ponar	Water Sampler	Lake composite (mud) sample with a Petit Ponar for elutriate testing.	
LACOMVAN	Van Dorn bottle	Water Sampler	Composite with a Van Dorn Sampler	
LAGRBVAN	Van Dorn bottle	Water Sampler	Lake grab with Van Dorn bottle	SDWRAP SOP - Watershed Assessment Team, June 2003, Standard Operating Procedure for Field Samplers Volume 1, State of South Dakota, Voume 1
LAINTVAN	Van Dorn bottle	Water Sampler	Integrated lake sample with a Van Dorn bottle.	
LAINTWAT	Water Pump	Water Sampler	Integrated lake sample with a water pump.	
LAMSRMET	Meter-Observation	Miscellaneous/Other	Lake measurement with a meter or a lake observation.	
LAMSRSON	Sonde-Observation	Miscellaneous/Other	Lake observation or measurement with a Sonde unit.	
REACMVAN	Van Dorn bottle	Water Sampler	Reservoir composite algae sample with a Van Dorn bottle.	
REACMWSP	Water Pump	Miscellaneous/Other	Reservoir algae composite sample with a water pump.	
REAGRVAN	Van Dorn bottle	Water Sampler	Reservoir algae grab sample with a Van Dorn bottle.	
REAGRWSP	Water Pump	Miscellaneous/Other	Reservoir algae grab sample with a water pump.	
REBEKMAN	Ekman	Benthic Dredge	Reservoir benthos sample with an Ekman dredge.	
REBLKBOT	Blank sample		Blank sample for a reservoir.	

Sample Collection/Creation Procedures

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SDWRAP		SD Dept of Environmental & Natural Resources		
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
REBPONR	Petite Ponar	Benthic Dredge	Reservoir benthos sample with a Petite Ponar	
RECOMPPN	Petite Ponar	Water Sampler	Reservoir composite sample with a Petite Ponar sampler.	
RECOMVAN	Van Dorn bottle	Water Sampler	Reservoir composite sample with a Van Dorn sampler.	
REGRAVAN	Van Dorn bottle	Water Sampler	Reservoir grab sample with a Van Dorn bottle.	
REICMEKM	Ekman	Benthic Dredge	Reservoir invertebrate composite sample with an Ekman dredge.	
REICMPPN	Petite Ponar	Benthic Dredge	Reservoir invertebrate composite sample with a Petite Ponar dredge.	
REMSRMET	Meter-Observation	Miscellaneous/Other	Reservoir measurement with a meter or a reservoir observation.	
REMSRSON	Sonde-Observation	Miscellaneous/Other	Reservoir measurement with a Sonde unit or a reservoir observation.	
RESCMCOR	Gravity Corer	Benthic Corer	Reservoir sediment core sample with a gravity corer.	
RESCMPPO	Petite Ponar	Benthic Dredge	Reservoir sediment composite sample with a Petite Ponar dredge.	
RIACMTIL	Tile Plate	Trap/Substrate	River invertebrate composite sample with a tile plate.	
RIBLKBOT	Blank Sample	Water Sampler	Blank sample for a river using a bottle.	
RIBPPONR	Petite Ponar	Benthic Dredge	River benthos sample with a Petite Ponar dredge.	
RIBRBASK	Rock Basket	Trap/Substrate	River benthos sample using a rock basket.	
RICOMAUT	Autosampler	Water Sampler	River composite sample with an autosampler.	
RIGRABOT	Bottle	Water Sampler	River grab sample with a bottle.	
RIICMDNT	D-frame net	Net/Non-Tow	River invertebrate composite sample with a D-frame net.	
RIICMPPN	Petite Ponar	Benthic Dredge	River invertebrate composite sample with a Petite Ponar dredge.	

Sample Collection/Creation Procedures

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SDWRAP

SD Dept of Environmental & Natural Resources

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
RIICMRBA	Rock Basket	Trap/Substrate	River invertebrate composite sample using a rock basket.	
RIINTINT	Integrated suspended sediment	Miscellaneous/Other	Integrated water sample taken with an integrated sampler.	
RIMSRMET	Meter-Observation	Miscellaneous/Other	River measurement with a meter or a river observation.	
RIMSRSON	Sonde-Observation	Miscellaneous/Other	River measurement with a Sonde meter or a river observation.	
RIPERGLS	Glass slide	Miscellaneous/Other	Periphyton sampler using glass slides suspended in a stream.	
RIPERNAT	Natural substrate	Trap/Substrate	Periphyton sample obtained by scraping natural substrate.	
RISPKBOT	Field spike		Field spike of a water sample taken from a river/stream.	
SECCHI	Secchi disk depth			
SSGRABOT	Bottle	Water Sampler	Storm sewer grab sample with a bottle.	
SSMSRMT	Meter-Observation	Miscellaneous/Other	Storm sewer measurement with a meter or a storm sewer observation.	

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SWFMDDEP

Southwest Florida Water Management District (FLDEP)

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
GRAB	Grab sample			

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TDECDOE

Tennessee Department of Environment and Conservation

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
ROUTINE	Routine sample bottle	Miscellaneous/Other	Separate sampling bottles are used for: routine (BOD, solids, hardness), metals, mercury, nutrients (COD, ammonia, NO2 & NO3, TKN, phosphate), cyanide, and microbiologicals (E. coli, enterococcus, fecal coliform, fecal streptococci).	American Public Health Association, 1992, Standard Methods for the Examination of Water and Wastewater, 18th Edition., American Public Health Association, 18th Edition
SED.-SPOON	Sediment sampling with spoons	Benthic Grab	Samples taken from streams with stainless steel spoons in areas of deposition of fine sediments (predominantly clay and silt).	
SEDIMENT	Sediment sampling with mini-ponar dredge or spoons.	Benthic Grab	Sediment sampling in the Clinch River done with a mini-ponar dredge. Sampling in tributaries done with waders and stainless-steel spoons.	

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TDECWPC

Tennessee Department of Environment and Conservation

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
R	routine sample	Water Sampler		

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THORNTON **City of Thornton**

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
UNKNOWN	Unknown			

Sample Collection/Creation Procedures

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USFS0614

Umatilla National Forest

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
COLLECT01	ISCO	Water Sampler	ISCO water sampler, composite sample, 4 samples per day/bottle, 6 hour interval	
COLLECT02	Grabs	Water Sampler	Sample by dipping bottle into water source.	

Sample Collection/Creation Procedures

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USVIST Government US Virgin Islands				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SC-01	Ambient Water Sampling Procedure	Water Sampler	The sampler will grasp the container securely with one hand and plunge it's mouth down into the water, avoiding surface scum. Tip the bottle slightly upwards to allow air to exit and bottle to fill, leaving 1 inch air space in bottle after collecting.	Division of Environmental Protection, 2000, Standard Operationing Procedures for Ambient Monitoring, Division of Environmental Protection, 4 pages
SC-02	Effluent Grab Water Sampling Procedure	Water Sampler	Holding container with glove on plunge the container neck first into effluent leaving approximately an inch of space, tighten cap, place in cooler and take to the lab.	DPNR/DEP, 1999, SOP for Territorial Pollutant Discharge Elimination System, DPNR/DEP, 46 pages
SC-03	Effluent Composite Water Sampling Procedure	Water Sampler	Deploy samplers in proper location as indicated in approved permit. Test by switching the sample rate to manual then set sampler for 24hr samples on an hourly basis with required vol., hose length, hose size and start time. Start sample.	DPNR/DEP, 1999, SOP for Territorial Pollutant Discharge Elimination System, DPNR/DEP, 46 pages
SC-04	Sediment Bottom Sample	Benthic Dredge		
SC-05	Soil Sample	Benthic Dredge		

Sample Collection/Creation Procedures

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<div> <div>UTAHDWQ</div> <div>Utah Department Of Environmental Quality</div> </div>				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
DWQ-001	Water Grab Sampling	Miscellaneous/Other		
DWQ-002	Phytoplankton Sampling Gear	Water Sampler	Gear consists of 35 foot plastic tube with rope and weight on one end and a bucket	Division of Water Quality, 1996, Division of Water Quality Quality Assurance/Quality Control Manual, Division of Water Quality, 1
DWQ-003	Macroinvertebrate Modified Hess Sampling	Benthic Grab		Division of Water Quality, 1996, Division of Water Quality Quality Assurance/Quality Control Manual, Division of Water Quality, 1
DWQ-004	Macroinvertebrate Artificial Substrate Sampler	Trap/Substrate		Division of Water Quality, 1996, Division of Water Quality Quality Assurance/Quality Control Manual, Division of Water Quality, 1
DWQ-005	Macroinvertebrate kick net sampling	Net/Non-Tow	Samples macroinvertebrates with a kick net	
DWQPHYTOLO	Phytoplankton sampling in lower euphotic zone	Water Sampler	Phytoplankton sample is collected in a kemmerer bottle from 2 and 3 times the secchi depth and composited in a bucket.	
DWQPHYTOUP	Phytoplankton sampling in upper euphotic zone	Water Sampler	Phytoplankton sample is collected in a kemmerer at surface and secchi depth then composited in a bucket.	
PERIPHYTON	Periphyton Sampling Gear			
PHYTONET1	Phytoplankton samples collected by a net	Net/Vertical Tow	The net is towed from 3 times the secchi depth to the surface.	

Sample Collection/Creation Procedures

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WREQC

Wind River Environmental Quality Commission

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
IMSAMPLE	WREQC Sampling for InterMountain Lab Analyses	Water Sampler	A 100 ml polyethylene, kept at 4 degrees centigrade and with H2So4 preservative to a pH of less than 2 is used for ammonia, and nitrates. A 100 ml polyethylene bottle, kept at 4 degrees centigrade and with HN03 preservative to a pH of less than 2 is used for hardness and total recoverable metals. The rest of the analytes are prepared from a 500ml polyethylene sample bottle also kept at 4 degrees centigrade but with no preservatives. Holding times and other method details follow EPA 40 CFR Sec. 136.3.	

Sample Collection/Creation Procedures

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WSSC

Water Sentinels Sierra Club

Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SC-001	sample collection procedures		procedures for macroinvertebrate sampling. see also Missouri Department of Conservation- Stream Team handbook; see also Missouri Department of Natural Resources SOPs. esp. FSS-012	USDOI, USGS, 1987, Methods for Collection and Analysis of Aquatic Biological and Microbiological Samples, Book 5, Chapter A4., USDOI, USGS, Book 5, Chapter A4

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WY-DEQ Wyoming Dept. of Environmental Quality				
Procedure ID	Procedure Name	Gear Group Name	Description	Citation
SP-MACRO	Benthic Macroinvertebrate Sampling	Trap/Substrate	Using a previously generated random number table the Surber sample is placed at 8 random locations, moving up the riffle, to create a composite sample. Benthic macroinvertebrates are collected in the net through careful agitation of the substrate.	Plafkin, J.L., M.T. Barbour, K.D. Porter, S.K. Gross, R.M. Hughes, 1989, Rapid Bioassessment Protocols For Use in Streams and Rivers, USEPA Office of Water, EPA/444/4-89-001
SP-WATER	Water Grab Sampling	Water Sampler	These water quality characteristics are sampled on location and, as dictated by the corresponding EPA method, acidified, refrigerated and transported for laboratory analysis.	USEPA, 1983, Methods for Chemical Analysis of Water and Wastes, USEPA, EPA 600/4-79-020